

HIDE THIS SLIDE

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HIDDEN SLIDE

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V2.0

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PREFACE IMPROVEMENTS

- Users of this publication are encouraged to submit comments and recommendations to improve the publication. Comments should include the version number, page, paragraph, and line(s) of the text where the change is recommended. The proponent for this publication is the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM). Comments and recommendations should be forwarded directly to: **Commander, USACHPPM, ATTN: MCHB-CS-OHI, 5158 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010--5403**, or by using the E-mail address on the USACHPPM website at: <http://chppm-www.apgea.army.mil/mtb/>
- If you develop new slides or revise existing slides, please forward to USACHPPM for future updates of this briefing.
- We will post future updates on the USACHPPM Internet site: <http://chppm-www.apgea.army.mil/mtb/>

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VERSION UPDATES

- V1.16 Changes: None (Baseline)
- V1.17 Changes: Updated Cuba/GTMO slide to include dengue fever risks.
- V1.18 Changes: Consolidated with V2.00
- V2.00 Changes: Added the following countries: Djibouti, Republic of Georgia, Kazakhstan, Kyrgyzstan, and Qatar. Updated country slides with current AFMIC data. Added the following slides: Mouth Guards, Sunburn. Added NSN number for Combat Ear Plug slide. Updated Tick Removal Procedures slide. Updated PPD/TST requirements on Medical Tests-All Personnel slide.
- V2.01 Changes: Corrected Qatar: Diseases of Operational Importance Slide. Revised permethrin uniform treatment guidelines to reflect new guidance from the AFPMB.
- V2.02 Changes: Added Malaria Distribution in Iraq Region slide. Added Turkey.
- V2.03 Changes: Corrected Kuwait topographical map.
- V2.04 Changes: Added info on polyurethane condoms. Added Bulgaria, Cyprus, Greece, and Jordan.
- V2.05 Changes: Added Oil Well Fire Information.

OPERATION ENDURING FREEDOM

PREVENTIVE MEDICINE BRIEFING

Presenter's Name

Presenter's Command

Local Contact Information



Prepared by:

**U.S. Army Center for Health Promotion and Preventive
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AGENDA

- Purpose
- Background
- Review of Guide to Staying Healthy
- Preparation for Deployment
- Deployment
- Medical Threat
- Post Deployment
- Regional Profiles
- Country Profiles
- Leader Responsibilities
- Summary
- Conclusion



PURPOSE

Inform Deploying Personnel
(Military and Civilian) of the
Potential Health Hazards and
the Individual Countermeasures
Necessary to Assure Personal
Safety and Health



BACKGROUND

- US Forces are mobilizing and deploying in support of Operation Enduring Freedom
- Environmental, safety, and occupational health hazards are a potential medical threat to deployed personnel



Historical accounts of wars, battles, and military training consistently relate that the greatest loss of forces was not caused by combat wounds – rather the majority of losses were the result of disease and non-battle injury (DNBI).

GUIDE TO STAYING HEALTHY

GTA 08-05-062

- Unfold YOUR *Guide to Staying Healthy*, Graphic Training Aid - GTA 08-05-062
- Personal Protective Measures (PPM)
 - Individual Countermeasures
- Reference Guide for this Briefing



This guide is for use by all active/reserve component military, civilian, retiree, and contractor personnel. Any individual who trains and prepares for, or participates in any type of military operation should keep and refer to this guide. 8

PREPARING TO DEPLOY

- Medical, Dental & Vision Screening (Soldier Readiness Processing)
- Prepare clothing and gear and personal hygiene items
- Complete Pre-deployment Health Assessment (DD Form 2795)
- Immunizations and chemoprophylaxis
 - Begin malaria chemoprophylaxis two weeks prior to deployment (when directed by medical authority)



During medical screening, discuss prescribed medications with the examiner; obtain at least 90-day supply of medications

PREPARING TO DEPLOY

ADDITIONAL PACKING ITEMS:

- Cotton underwear (10 changes)
- Birth control supplies
- Personal Hygiene Products
- Anti-fungal cream/powder & shower shoes
- Insect repellent, sunscreen, eye and hearing protection, lip balm, skin lotion



If you need medications or hygiene items which may not be available through normal supply systems, obtain a 6-month supply, or enough for the duration of the operation

PREPARING TO DEPLOY FEMALE CONSIDERATIONS

- Birth control pills
- Feminine Hygiene Products (non-deodorant tampons, sanitary napkins, panty liners; menstrual cramp reliever)
- Yeast infection medication (two courses of vaginal treatment)
- Portable Urinary Device
 - For use by female personnel to reduce time needed to urinate and resolve privacy issues when latrines are not available (convoys, field operations)

If using birth control pills, continue as prescribed to regulate menstrual cycles and avoid problems resulting from inconsistent use

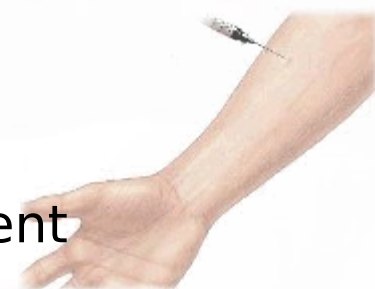
DEPLOYMENT HEALTH CARE

- Know where to seek health care when deployed
- May or may not be through same channels as your home station
- Maintain your health and seek care whenever an illness or injury occurs



PREVENTIVE MEDICINE COUNTERMEASURES

- Medical Tests – All Personnel
 - PPD – Purified Protein Derivative (TST – Tuberculin Skin Test)
 - Within 12 months prior to deployment
 - **AND** At time of redeployment
 - **AND** Again between 3-6 months after redeployment
 - HIV – Human Immunodeficiency Virus
 - Within 6 months prior to deployment
 - G6PD - Glucose-6-Phosphate Dehydrogenase
 - Prior to taking Primaquine (anti-malarial drugs are contra-indicated for G6PD deficient individuals)



TEST RESULTS

IMMUNIZATION REQUIREMENTS

- All Personnel

- Hepatitis A
- Typhoid
- Tetanus-diphtheria
- Yellow fever
- Meningococcal
- Influenza
- Measles, Mumps, Rubella (MMR)
- Polio



- Selected Personnel

- Hepatitis B (medics, MPs, firefighters, combat lifesavers)
- Rabies (occupational risk of exposure)
- Pneumococcal (asplenic personnel)
- Anthrax (as directed from higher)
- Smallpox (as directed from higher)

Confirm requirements with medical authority or OPORD

MALARIA CHEMOPROPHYLAXIS

- Malaria Chemoprophylaxis (when required)
 - All countries except Algeria, Cuba, and Kuwait
 - Weekly chloroquine is primary regimen in Iraq, Syria, Turkey and Kazakhstan (see briefer notes)
 - Weekly mefloquine is primary regimen in all other countries (not for use by personnel in flight status – must use doxycycline)
 - Daily doxycycline is alternative regimen
 - Primaquine terminal prophylaxis (14 days) for all redeploying personnel except G6PD deficient individuals



The type of drugs prescribed by your health care provider will be based on the area/country you are deploying to and your medical condition

FIELD SANITATION TEAM

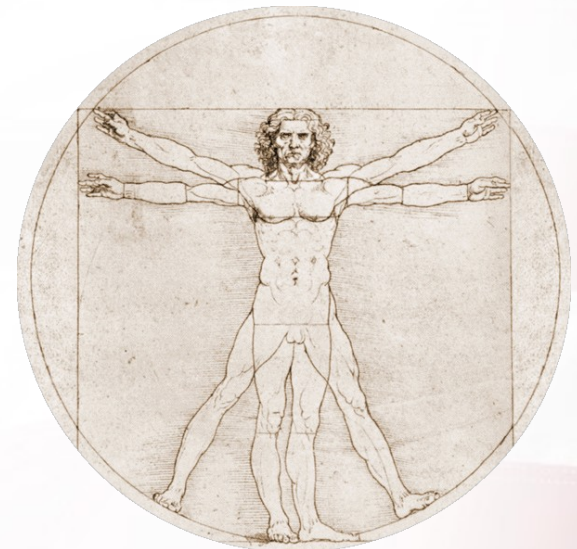
- Field Sanitation Teams (FST) train service members in Preventive Medicine Measures (PMM) and advise the commander and unit leaders on implementation of unit-level PMM.
- Know who the members of your Field Sanitation Team are PRIOR to deployment
- The FST can assist in preventing medical threats to your health
- Become familiar with FST equipment and training



Failure to apply the principles of PMM can result in mission failure

MEDICAL THREAT

- Personal Health
- Endemic Diseases
- Occupational Threat
- Environmental Threat
- Non-Battle Injuries/Operational Safety
- Operational Stress



PERSONAL PROTECTIVE MEASURES

- Wash hands frequently
- Do not rub eyes or inside of nose with bare finger(s)
- Bathe/shower regularly (field expedients will do); use unscented products
- Wear shower shoes to prevent athlete's foot
- Dry thoroughly after showering
- Sleep head-to-toe if billeted in common areas
- Wear clean, dry uniforms; change socks daily and uniform at least weekly
- Do not wear nylon or silk undergarments; cotton undergarments are more absorbent and allow the skin to dry
- Seek prompt medical care if problem exists



SEXUAL ACTIVITY

- Abstinence is the only 100% effective method for preventing sexually transmitted diseases
- Choose an effective method of birth control
 - Always use condoms during sex – regardless of other measures you choose. Using latex or polyurethane condoms during each sexual encounter provides improved (98%) prevention against STD's and pregnancy.



ORAL HEALTH

- Deploy with:
 - Toothbrush
 - Dental Floss
 - Fluoride Toothpaste
- Brush twice-daily
 - Daily In difficult tactical environments
- Floss daily
- Seek medical attention at the onset of any dental problems



SPIRITUAL HEALTH

- Maintain personal prayer/meditation
- Obtain and read wholesome religious/spiritual literature
- Attend religious/spiritual group discussions/studies
- Process anger, fear, anxiety & guilt through personal & group spiritual/religious activities
- Keep in touch with spiritual advisors/chaplains



NUTRITION

- Drink fluids continuously (hourly fluid intake should not exceed 1^{1/2} quarts, daily fluid intake should not exceed 12 quarts)
- Maintain weight; do not avoid food or attempt weight loss during a deployment
- Work in cold weather can increase energy needs by 10-25%
- Operations in high-altitude areas can increase energy needs by 50% or more



SMOKING

- March – August 2003: 19 cases of severe pneumonia in service members deployed to Southwest Asia
 - 16 smokers, *8 began smoking during this deployment*
 - Two pneumonia deaths
- January 2004: 2 new severe cases of pneumonia
 - *Both began smoking during this deployment*



If you don't smoke, don't start during deployment to Southwest Asia.

If you do smoke, quit.

STRESS

- Operational stressors
- Different types and intensities
- Recognize the symptoms of depression
- Seek or encourage help
- Take steps to reduce operational stress

Stress can be intensified for personnel who are exposed to or observe human suffering and/or death

IMPROVE RESISTANCE TO STRESS

- Fear and physical signs or symptoms of stress are normal reactions before and during combat or other dangerous/life-threatening situations
- Talk about what is happening with your buddies
- Learn ways to relax quickly
- Quickly integrate new replacement
- If you must join a new group, be active in establishing friendships
- Give each other moral support
- Care for your buddies and work together



CARBON MONOXIDE

- Carbon monoxide (CO) is a colorless, odorless, and tasteless gas produced by engines, stoves, and gas/oil heaters.
- CO replaces oxygen in the body, causing headache, sleepiness, coma, and death.



COUNTERMEASURES

- Keep sleeping area windows slightly open for ventilation and air movement.
- DO NOT sleep in vehicles with the engine running or use engine exhaust for heat.
- DO NOT park vehicles near air intakes to tents, trailers, or environmental control units.

Do not use unapproved commercial off-the-shelf heaters.
Check with your unit Safety Officer.

COLD INJURY PREVENTION

- Hypothermia, Frostbite, Chilblains

COUNTERMEASURES

- When possible, remain inside warming tents/buildings and drink warm, uncaffeinated liquids for relief from the cold
- If working outside or on guard duty, insulate yourself from the ground and wind. Rotate duty as frequently as mission allows.
- Properly wear the Extended Cold Weather Clothing System



You should receive annual unit training on prevention of cold injury

COLDER

- C:** Keep clothing Clean
- O:** Avoid Overheating.
- L:** Wear clothing Loose and in layers
- D:** Keep clothing as Dry as possible
- E:** Examine clothing for holes, tears, and broken fasteners
- R:** Repair or replace damaged clothing



Notify your first-line supervisor if you have had a previous cold injury. Use the buddy system.

WIND CHILL TEMPERATURE

Wind Speed (mph)
↓

↓	Air Temperature (°F)																	
	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95

Wind speed based on measures at 33 feet height. If wind speed measured at ground level multiply by 1.5 to obtain wind speed at 33 feet and then utilize chart.

RISK OF FROSTBITE

GREEN - LITTLE DANGER (frostbite occurs in >2 hours in dry, exposed skin)

YELLOW - INCREASED DANGER (frostbite could occur in 45 minutes or less in dry, exposed skin)

RED - GREAT DANGER (frostbite could occur in 5 minutes or less in dry, exposed skin)

WET SKIN CAN SIGNIFICANTLY DECREASE THE TIME FOR FROSTBITE TO OCCUR

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HEAT INJURY PREVENTION

- Heat Cramps, Exhaustion, or Stroke

COUNTERMEASURES

- Drink fluids continuously (hourly fluid intake should not exceed 1^{1/2} quarts, daily fluid intake should not exceed 12 quarts)
- Maintain acclimatization
- Protect yourself from exposure to sunlight and wind
- Maintain good physical condition
- Establish work/rest schedules
- Wear proper clothing
- Participate in training



You should receive annual unit training on prevention of heat injury. Heat injuries are preventable!

HEAT

H: Heat category – WBGT Index

E: Exertion level

A: Acclimatization

T: Tables – Water/Work/Rest

REMEMBER

Water requirements are not reduced by any form of training or acclimatization.

Units which have soldiers who do not drink because they do not have opportunities to urinate have a leadership problem.



HEAT INJURY PREVENTION

Fluid Replacement Guidelines for Warm Weather Training (Applies to average heat acclimated soldier wearing BDU, Hot Weather)

Heat Category	WBGT Index, °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest	Water Intake, Qt/hr	Work/Rest	Water Intake, Qt/hr	Work/Rest	Water Intake, Qt/hr
1	78-81.9	NL	1/2	NL	3/4	40/20 min	3/4
2 (Green)	82-84.9	NL	1/2	50/10 min	3/4	30/30 min	1
3 (Yellow)	85-87.9	NL	3/4	40/20 min	3/4	30/30 min	1
4 (Red)	88-89.9	NL	3/4	30/30 min	3/4	20/40 min	1
5 (Black)	>90	50/10 min	1	20/40 min	1	10/50 min	1



- The work rest times and fluid replacement volumes hydration volumes will sustain performance for at least 4 hours of work in the specified heat category. Individual water needs will vary approx 1/4 qt or 8 ounces per hour.
- NL= no limit to work time per hour.
- Rest means minimal physical activity (sitting or standing), accomplished in shade if possible.
- **CAUTION: Hourly fluid intake should not exceed 1^{1/2} quarts.**
Daily fluid intake should not exceed 12 quarts.
- Wearing body armor adds 5 degrees Fahrenheit to WBGT Index
- Wearing MOPP overgarment add 10 degrees Fahrenheit to WBGT Index.

SUNBURN

- Prevent overexposing skin and eyes to solar radiation and wind

COUNTERMEASURES

- Use sunscreen and lip balm
- Use protective eyewear
- Limit exposure



Sunburn reduces soldier readiness and increases the likelihood of skin cancer.

HIGH ELEVATIONS

- High Altitude-elevations over 6,000 feet
 - High Altitude illnesses can kill
 - Stage ascents over time
 - Environmental conditions are more severe at higher elevations
 - Lower oxygen levels (“thin air”)
 - Colder temperatures, high winds, low visibility
 - Ice, snow, rocks, avalanches
 - Remain well hydrated



Be observant of the common symptoms of mountain sickness: headache, nausea, vomiting, dizziness, fatigue, irritability, and coughing. Seek medical attention immediately if you experience any of these symptoms

SAND, DUST, AND WIND

(NUMBER ONE COMPLAINT)

- Sand, wind, and dust cause health problems, particularly to skin, eyes, throat and lungs
- High winds create flying object hazards which may not be visible in blowing sand or dust
- Wash daily, especially body areas that collect dust and sand
- Protect lips with lip balm and use moisturizing skin lotion on your hands to prevent cracked, chapped fingers
- Shield your face with cloth materials to protect from blowing dust and sand
- Protect your eyes

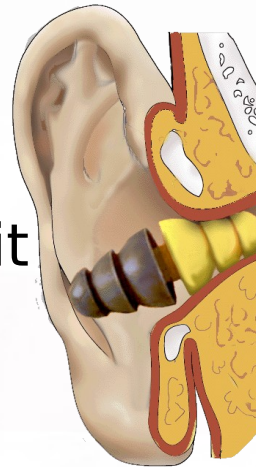


HEARING CONSERVATION

- Loud noise causes permanent hearing loss

COUNTERMEASURES

- Have your hearing protection with you at all times and use it
- Be sure your ear plugs, noise muffs or helmets fit properly and are in good condition
- Avoid noise or limit time around noise to only critical tasks



**Combat
Arms
Earplug**

**NSN 6515-
01-466-
2710**



**Authorized
wear**

IAW AR 670-1

If you have to raise your voice to be understood, it is too noisy.

Put on hearing protection.

VISION CONSERVATION

- **Preventive Measures and Eye Protection**

- Contact lens use is prohibited for use in environments where exposure to smoke, toxic chemical vapors, sand, or dust occurs
- If required, maintain 2 pair of glasses and 1 protective mask insert
- Use eye protection when in any potentially eye hazardous environment
 - Safety goggles or spectacles with side shields*
 - Chemical splash goggles*

*(ANSI Z87.1 approved)



**Vision Ready is
Mission Ready!**

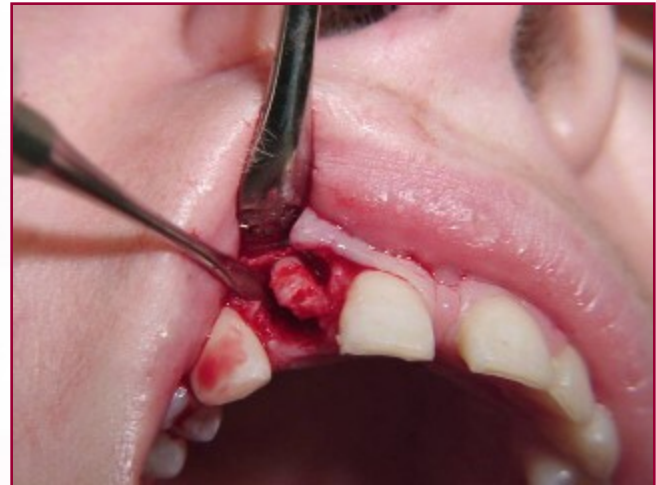
MOUTH GUARDS

Use Them



OR

Lose Them



FOODBORNE AND WATERBORNE DISEASES

- Diarrhea
- Cholera
- Hepatitis A and E



- Typhoid Fever
- Chemicals/Pesticides
- Heavy Metal Poison

COUNTERMEASURES



- Do not consume any food, ice, water, or beverage (to include bottled water) that have not been approved by the U.S. military
- Assume all non-approved food, ice, and water is contaminated

Even a one-time consumption of these foods or water may cause severe illness

FOOD CONTAMINATION

- Metals
 - Arsenic
 - Chromium
 - Cadmium
 - Lead
- Pesticides
- Insecticides
- Fertilizers
- Industrial chemical runoff
- Hazardous waste dumping
- Untreated sewage
- Human waste
- Animal waste



VECTOR-BORNE THREATS



Sand Flies



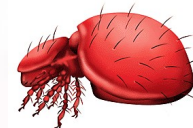
Mosquitoes



Fleas



Ticks



Chigger Mites



Lice

Not to scale

Your Medical Authority will provide guidance on the specific threat and countermeasures for your deployment location

PERSONAL PROTECTIVE MEASURES



**Permethrin
On
Uniform**



**DEET On
Exposed
Skin**



**Properly
Worn
Uniform**

**MAXIMUM
~~PRO~~TECTION**



DOD Insect Repellent System

YOU NEED TO KNOW...

Dry cleaning removes permethrin from the uniform

INSECT REPELLENTS FOR SKIN AND CLOTHING

DEET lotion



NSN 6840-01-284-

2002



- Apply a thin coat to **EXPOSED** skin
- One application lasts up to 12

Permethrin

- Individual Dynamic Absorption Kit (IDA)

- Treatment lasts for for over 50 launderings



NSN 6840-01-345-0237



NSN 6840-01-278-1336

- Aerosol spray can
- Treatment lasts through 5-6 washes

OTHER INDIVIDUAL COUNTERMEASURES

- Wash and inspect your body for insects/ticks and bites daily
- Use buddy system to check clothing routinely
- Launder uniform routinely to remove insects and eggs
- Order a permethrin-impregnated bed net for use while sleeping

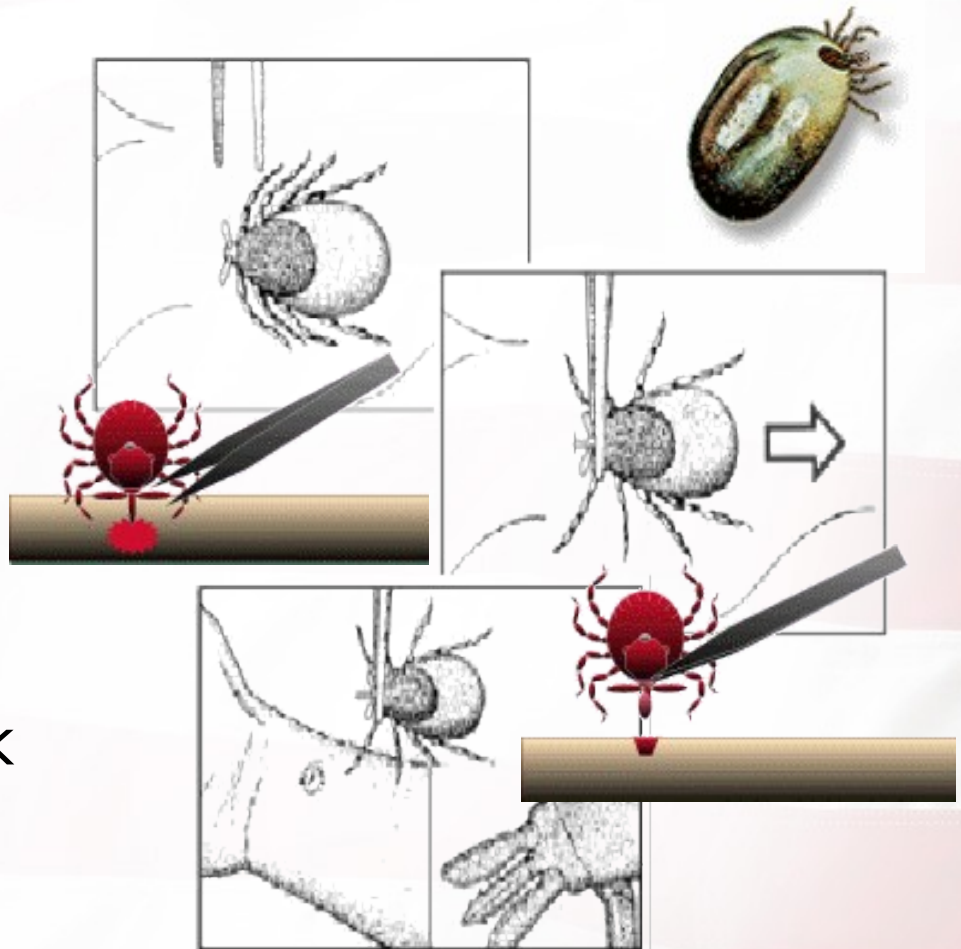
NSN 3740-01-516-4415

- Otherwise, treat a bed net before use by spraying the outside of the net with permethrin
- Tuck edges under cot or sleeping bag
- Don't let net touch your skin while you sleep



TICK REMOVAL PROCEDURES

- Use fine-tipped tweezers to grasp mouthparts
- Grasp mouthparts against skin surface
- Pull back slowly and steadily with firm tension
- Avoid squeezing tick
- Wash wound and apply an antiseptic



HAZARDOUS ANIMALS

- Rabies: wild dogs, cats, and other animals
- Hantavirus: infected rodent feces and urine
- Ticks, fleas, mites: carried by rodents
- Rodents: contaminate food, damage equipment



COUNTERMEASURES

- Do not feed, handle, or keep wild or stray animals as pets or mascots
- Do not tolerate the presence of rodents
- Maintain a high state of sanitation
- Avoid inhaling dust when cleaning unoccupied areas (avoid dry sweeping)
- Seek medical attention for animal bites or scratches



VENOMOUS ANIMALS

- Snakes: Pit vipers, cobras, adders, asps, and kraits
- Bees, wasps, hornets, and ants
- Spiders, centipedes, and scorpions



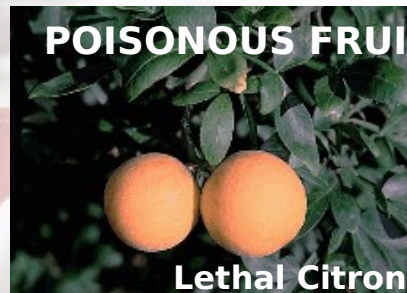
COUNTERMEASURES

- Avoid bees, hornets, wasps, ants, and spiders
- Assume ALL snakes are poisonous
- Do not attempt to handle or capture any snakes
- Shake out clothes, shoes, and bedding before use
- Wear foot protection at all times (no barefoot)
- Bring proper medication if allergic to bites/stings



HAZARDOUS PLANTS

- Plant resins cause contact dermatitis
- Poisonous roots, stems, leaves, and fruit
- Weeds and stinging nettles
- Thorny shrubs and trees



THORNY PLANTS



**TOXIC PLANT RESINS
AND DERMATITIS**



COUNTERMEASURES

- Avoid touching unfamiliar plants
- Use clothing as protective barrier
- Rinse skin promptly after exposure
- Wash clothing after contact
- Never eat any part of unfamiliar plant

WATER CONTACT DISEASES

- Leptospirosis
- Schistosomiasis



COUNTERMEASURES (Mission permitting)

- Avoid contact with standing water
- Towel dry vigorously after exposure
- Take all medications as directed

ENVIRONMENTAL CONSIDERATIONS

- Consider environmental aspects of operations
- What was the area originally used for?
- Properly manage hazardous material
- Properly dispose of hazardous and medical waste
- Prevent oil and fuel spills
- Clean vehicles at proper locations
- Respect cultural and historical property
- Protect natural resources and the terrain



ENVIRONMENTAL CONSIDERATIONS

- Hazardous Materials
- Hazardous Waste
- Medical Waste
- Refueling Points
- Spill Response
- Wastewater Discharge
- Decon Sites
- Latrines
- Burn pits
- Laundry and Bath
- Fuel Storage
- POL Storage
- Generators
- Special Wastes
- Burial Sites



ENVIRONMENTAL AIR POLLUTION

- Location of Air Pollution Sources
 - Burning or Damaged Buildings
 - Open Burning/Waste Disposal
 - Vehicle/Generator Exhaust
- Contaminants
 - Dust, Silica, Asbestos, Lead
 - Organic Vapors and Organic Gases
- Industrial Facilities



OIL FIELD HAZARDS (OIL BURNING)

- Burning Trench

- See/Feel-Wall of fire and black smoke, low visibility, intense heat, sulfur-oily smell
- Danger-Toxic smoke, gases, fumes, darkness, intense heat
- Do This-Avoid burning fields, trenches, facilities, move upwind if possible, avoid intense heat, avoid contact with oil/oil spray, use sand to clean skin and clothing, close up vehicles

Burning Storage Tanks

- See/Feel-Burning pools of oil around well heads and tanks
- Danger-Sudden expansion of fires, range finders/IR won't work well

- Blown Well Head

- See/Feel-Intense blow torch fire from well



OIL FIELD HAZARD (OIL NOT BURNING)

- Blown Well Head

- See/Feel-Violent jet and spray of oil, pools of oil, rotten egg smell
- Danger-Sudden ignition of oil, oil spray, toxic gases and fumes, projectiles from well head, discharging weapons may ignite oil and gas
- Do This-Avoid area, avoid oil spray, clean with soapy water, stay away from well heads, don mask and evacuate upwind, use detection equipment if available



- Intact Well Head

- See/Feel-Pipes and valves, may be surrounded by sand bags
- Danger-Undetonated charges which may explode
- Do This-Avoid the well head

OIL FIELD HAZARD (OIL NOT BURNING)

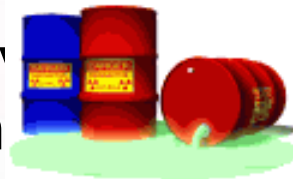
- Ruptured Storage Tanks and Refineries
 - See/Feel-Pools of oil and oily smell
 - Danger-Sudden ignition of oil and fumes
 - Do This-Avoid
- Oil Filled Trenches
 - See/Feel-Oily smell
 - Danger-Sudden ignition of oil
 - Do This-Proceed cautiously



NOTE: Igniting Oil and Gas is EXTREMELY Dangerous. It is a Command decision to ignite oil or gas that is not burning. This should only be done under strict supervision.

TOXIC INDUSTRIAL CHEMICALS/MATERIALS

- OCONUS threat exists from accidental or **intentional** release of TICs/TIMs.
- CAUTION - There are many uncommon/unknown TIC/TIM sources in an OCONUS setting.
- Become familiar with individual response technique, such as shelter in place, and any emergency warning systems (if applicable). Make sure other unit members are also aware.
- Protective measures are chemical specific – rely on trained personnel for recommendations.
- There is no one size fits all protective measures – this includes MOPP gear



TOXIC INDUSTRIAL CHEMICALS / MATERIALS

- Personnel deployed in support of missions ranging from war to operations other than war may be exposed to harmful chemicals as a result of industrial accidents, sabotage, or the intentional or unintentional actions of enemy or friendly forces.

Example Catastrophic Toxicological or Physical Hazards for Industrial Sites, Balkan States



DETAINEE OPERATIONS

- These slides are for personnel deploying with the specified mission of providing direct support to detainee operations.

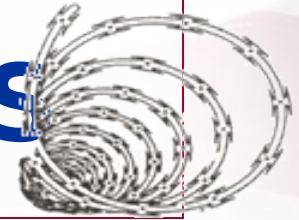


Camp X-Ray, GTMO



Afghanistan

DETAINEE OPERATIONS



- Security or other personnel in direct contact with detainees are at higher exposure risk for:
 - Bloodborne Pathogens (Hepatitis B and HIV)
 - Respiratory Diseases (tuberculosis)
- Additional packing items for personnel deploying for the specified mission of detainee operations
 - N95 Respirator
 - Fluid proof gloves (Latex or equivalent, non-sterile)

UNIVERSAL PRECAUTIONS

- **“Universal Precautions or Standard Precautions”** are the terms used to describe a prevention strategy in which all blood, potentially infectious materials, and respiratory secretions are treated as if they are, in fact, infectious, regardless of the perceived status of the source individual.
- In other words:
Whether or not you think the blood/body fluid is infected with bloodborne pathogens, *you treat it as if it is.*

BLOODBORNE PATHOGENS

- Bloodborne pathogens (BBPs) pose a risk to unprotected personnel when exposed to human blood and other potentially infectious materials:
 - Body fluids
 - Tissues
 - Blood-saturated, dripping, or blood-caked clothing or equipment.
- BBPs Include:
 - Hepatitis B, C, D virus
 - Human immunodeficiency virus (HIV)
 - 23 other infectious diseases

PREVENTION OF BLOODBORNE INFECTION

- Personal Protective Equipment (PPE)
 - Gloves (Fluid-Proof)
 - Eyes and Face Protection
 - Body Protection
 - Head and Foot Protection



If you find yourself in a situation where you have to come in contact with blood or other body fluids and you don't have any standard personal protective equipment handy, you can improvise. Use a towel, plastic bag, or some other barrier to help avoid direct contact.

BLOODBORNE INFECTION PPE

- Rules to follow:

- Always wear personal protective equipment in exposure situations
- Remove PPE that is torn or punctured, or has lost its ability to function as a barrier to bloodborne pathogens
- Replace PPE that is torn or punctured
- Remove PPE before leaving the work area



To protect yourself, it is essential to have a barrier between you and the potentially infectious material

BLOODBORNE INFECTION HYGIENE PRACTICES

- Hands or other exposed skin should be thoroughly washed as soon as possible following an exposure incident
- Hands should also be washed immediately (or as soon as feasible) after removal of gloves or other PPE
- If you are working in an area without an approved water source, you may use an antiseptic cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes



TUBERCULOSIS (DETAINEE TRANSPORTATION)

- Many of the detainees you are transporting may have active tuberculosis (TB)
- TB transmission may occur during transport flights

COUNTERMEASURES

- Wear N95 respirator
- Wear your gloves for BBPs
- Receive Universal Precautions training prior to flight
- Reduce proximity and duration of exposure to detainees (mission first)
- TB test 30-days after completion of your last transport mission



The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. A semi-transparent white rectangular box with a thin red border is positioned in the upper left quadrant, containing the main title.

END DETAINEE OPS

OCCUPATIONAL HEALTH PRE-DEPLOYMENT

- Current Industrial Hygiene review of operations
- Engineering controls
- Supply of required Personal Protective Equipment (PPE)
- Hazard Communication (HAZCOM) training
- Personal Protective Equipment training
- Current medical surveillance



OCCUPATIONAL HEALTH DEPLOYMENT

- Occupational Health Hazards
- Use your applicable control strategies
 - Elimination or substitution
 - Engineering control
 - Work Practices and administrative controls
 - Personal Protective Equipment
- Follow the PPE program requirements



FIELD FACILITIES

CONTROL OF HAZARDOUS EXPOSURES

- Garrison facilities include engineering controls to control chemical exposures
- In the field, additional efforts are needed to provide the same level of control for these occupational exposures
- Install and use safety countermeasures



OCCUPATIONAL HAZARDS

- Exhaust from engines and fuel space heaters
- Gases from weapons firing
- Solvents used to clean weapons
- Chemicals and metals from paint on vehicles and equipment
- Greases and oil from vehicle maintenance repair
- Detergents used to clean equipment
- Fuels and refueling operations
- Weapon systems: radiation energy, shock, vibration, noise

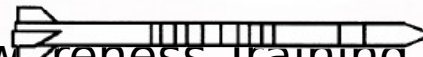


DEPLETED URANIUM (DU)

- Depleted uranium (DU) is used in armor-piercing munitions and in enhanced tank armor protection
- DU is a heavy metal that is slightly radioactive. Can cause adverse health effects if it enters your body (inhaled, ingested, fragments).

COUNTERMEASURES

- Receive Depleted Uranium Awareness Training
- Assume a DU contamination zone of 50 meters around actively burning fires involving any armored combat vehicles
- As with all battlefield debris-do not touch or move the object
- Notify authorities of the location of any debris
- Exercise standard field hygiene, to include washing hands and face
- No additional protective measures are required for handling unfired DU munitions other than those required for all munitions



HAZARD ASSESSMENT TOP THREE

#1 Vehicle Accidents

**Congested roads,
speeding and fog.
Civilian vehicles on
roads increases risks.**



**Slips, trips, and falls.
Surfaces create
hazards.
Injuries to hands,
forearms,
and shins.**

#2 Personal Injuries

#3 Fires

**Improper re-fueling and
unattended fuel heaters
increase the risk of fire
in tents.**



INJURY PREVENTION

- Slips, Trips, and Falls
- Sharp/Hot Objects
- Falling Objects
- Electrical Safety
- Back Safety
- Vehicle Safety



MOTOR VEHICLE ACCIDENTS

- Motor vehicle accidents
 - Driver Qualifications
 - Maintenance
 - Ground Guides
- Special Precautions
 - Night/Night Vision Device Operations
 - Convoy Operations
 - Refueling Operations
 - Sand/Dust Storms and Fog



The most common cause of serious non-battle injuries and death. All personnel have a duty to intervene in the careless operation of a vehicle.

SPORTS/TRAINING INJURIES

- Unit training program
 - Physical Training (PT)
 - Military Training
- Sporting activities
 - Avoid “tackle” sports
 - Wear safety equipment (eye and mouth protection during recreational activities)



Sports activities can result in injuries - some minor, some serious, and still others resulting in lifelong medical problems

UNEXPLODED ORDNANCE

- No souvenirs
- Do not touch
- Can explode at any time



CAVES

- Rabies from bat bites
- Tick-borne – Relapsing Fever
- Histoplasmosis from bat guano
- Confined Space Issues
 - Poor air exchange/ventilation
 - Asphyxiant gasses and/or low oxygen level
 - Ordnance/munitions
 - Other hazardous chemicals and materials stored in the caves



AIRBASE CONTAMINATION

- Soil and ground water contamination as a result of poor storage management, accidental releases, and improper waste disposal techniques
 - Kerosene, diesel fuel, gasoline, heating oil, lubricants, organic solvents, PCBs, heavy propellants, and de-icing compounds
- Volatile organic compounds evaporating from soil and ground water may accumulate in the airspace inside of tents or buildings constructed over contaminated areas



AIRBASE CONTAMINATION

- Personnel exposed to these contaminants may experience adverse health effects

COUNTERMEASURES

- Consult with preventive medicine personnel prior to engaging in soil excavation or other activities that involve direct contact with soil or ground water (example: construction of defensive positions)
- Do not work or bivouac over contaminated areas or in potentially contaminated buildings
- Exercise standard field hygiene (wash after contact)
- Seek medical care if you experience: eye, nose, and throat irritation; headaches, dizziness, weakness, loss of coordination, confusion, blurred vision, or nausea



POST DEPLOYMENT

- Complete Post-Deployment Medical Health Assessment (DD FORM 2796)
- Receive post-deployment preventive medicine briefing
- Receive post-deployment screening, testing, and follow-up
- Continue malaria chemoprophylaxis for four weeks after departure
- Malaria terminal prophylaxis with daily primaquine for 14 days after departure

POST DEPLOYMENT

- Continue to seek counseling from Chaplain or medical personnel
- Homecoming Stress
 - Don't expect things to be exactly the same, especially if long deployment
 - Ease back into roles; don't rush it
 - Children may be withdrawn
 - Spouse may be moody or depressed
 - Financial and property issues may require immediate attention



DISEASE SLIDES

- Anthrax - Natural
- Boutonneuse Fever
- Chikungunya Virus
- Crimean-Congo Hemorrhagic Fever
- Dengue Fever
- Leishmaniasis
- Leptospirosis
- Lyme Disease
- Malaria
- Meningococcal Meningitis
- Q-Fever

- Rabies
- Relapsing Fever
- Rift Valley Fever
- Sandfly Fever
- Schistosomiasis
- Sindbis Virus
- Tick-borne Encephalitis
- Trypanosomiasis
- Tuberculosis
- Typhoid/Paratyphoid
- Typhus - Endemic
- Typhus - Epidemic
- Typhus - Scrub
- West Nile Fever
- Yellow Fever

ANTHRAX

(Natural Disease)

- Caused by bacteria obtained from animal contact or eating meat from infected animals
 - Infected animals = livestock and wildlife
 - Increased risk during droughts
- Symptoms
 - Skin form – bump ➡ blister ➡ ulcer, swelling, and fever
 - GI form – nausea, vomiting, fever, and abdominal pain
 - Inhalation form – fever, cough, chest discomfort, muscle aches, respiratory distress and death
- Countermeasures
 - Avoid animal contact
 - Eat only food approved by the U.S. military
 - Bivouac away from livestock and wildlife

BOUTONNEUSE FEVER (Mediterranean Spotted Fever)

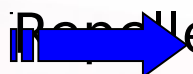
- Caused by rickettsia obtained from tick bites
 - Increased risk June-October
- Symptoms
 - High fever, severe headache, and muscle, joint, or back pain
 - Generalized rash involving palms and soles
 - Small, dark-centered ulcer at site of tick bite
- Countermeasures
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net
 - Regular examination of clothing and skin for ticks; promptly remove attached ticks



Prevent tick bites

CHIKUNGUNYA VIRUS DISEASE

- Caused by virus obtained from mosquito bites
 - Increased risk November-April
 - Increased risk during / after rainy season
 - Increased risk in urban and village areas
- Symptoms
 - Sudden onset of fever, rash on trunk and limbs, back pain, and severe joint pain / arthritis in multiple joints
- Countermeasures
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net



Prevent mosquito bites

CRIMEAN-CONGO HEMORRHAGIC FEVER



- Caused by virus obtained from tick bites
 - Also contact with livestock or their carcasses
 - Symptoms
 - Sudden onset of fever, muscle aches, dizziness, neck pain and stiffness, backache, headache, sore eyes and photophobia (sensitivity to light)
 - Severe symptoms and death possible
 - Countermeasures
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net
 - Regular examination of clothing and skin for ticks; promptly remove attached ticks
- Prevent tick bites

DENGUE FEVER

- Caused by virus obtained from mosquito bites
 - Increased risk of infection in urban areas
- Symptoms
 - Sudden onset, high fever, severe headaches, joint and muscle pain, nausea/vomiting, and rash.
 - Illness may last up to 10 days, complete recovery may take 2-4 weeks
- Countermeasures
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net



Prevent mosquito

bites




LEISHMANIASIS

- Caused by parasite obtained from sand fly bites
 - Increased risk from dusk to dawn
- Symptoms
 - Skin (cutaneous) form - sores on skin or in nose, mouth, and throat
 - Internal form - fever, substantial weight loss, anemia, swelling of the spleen and liver, and possibly death
- Countermeasures → Prevent sand fly bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net



Sand flies may be hard to see as they are very small - only about one-third the size of typical mosquitoes.

LEPTOSPIROSIS

- Caused by bacteria obtained from animal urine
 - Highest threat is skin contact with contaminated lakes, rivers, streams, or other water sources
 - Can acquire from food contaminated with rodent urine
- Symptoms
 - Fever, headache, muscle aches, vomit, jaundice, anemia, and sometimes rash
 - Severe symptoms and death possible
- Countermeasures  Avoid water contact
 - Avoid swimming and wading in lakes, rivers, and streams (mission permitting)



LYME DISEASE

- Caused by bacteria obtained from tick bites
 - Bacteria maintained in small rodents
- Symptoms
 - Red, slowly expanding "bull's-eye" rash, accompanied by general tiredness, fever, headache, stiff neck, muscle aches, and joint pain
 - More severe symptoms possible
- Countermeasures
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net
 - Regular examination of clothing and skin for ticks; promptly remove attached ticks



Prevent tick bites

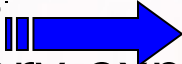
MALARIA

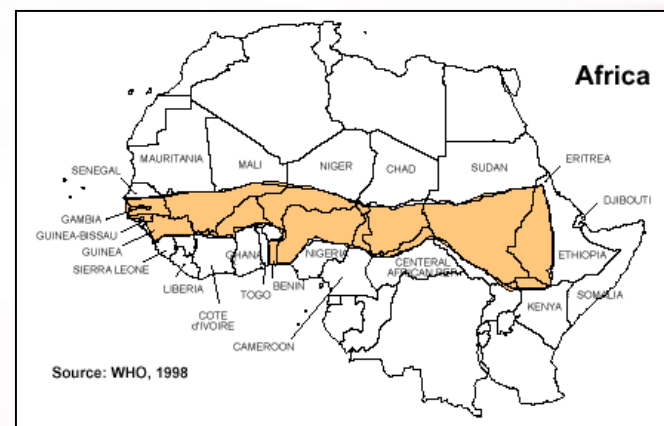
- Caused by parasite obtained from mosquito bite
- Symptoms
 - Fever and flu-like illness, chills, headache, muscle aches, and tiredness
 - Severe symptoms and death possible
- Countermeasures → Take anti-malarial medications and prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net

Malaria that is resistant to anti-malarial drugs can occur, it is critical that you prevent mosquitoes from biting you.



MENINGOCOCCAL MENINGITIS

- Caused by bacteria obtained from infected persons during coughing
 - Increased risk during Hajj and meningitis belt
 - Increased risk during cooler or months (winter and spring)
- Symptoms
 - Sudden onset of fever, intense headache, nausea, vomiting, stiff neck, and frequently rash
 - Severe symptoms and death possible
- Countermeasures:  Immunization
 - Avoid unnecessary exposure to high-risk populations



Q FEVER

- Caused by rickettsia obtained from inhalation of contaminated dust
 - Direct contact with infected animals, usually livestock
 - Contact with contaminated animal products – milk
- Symptoms
 - Sudden onset of high fever, severe headache, muscle aches, sore throat, cough, nausea, vomiting, diarrhea, and abdominal and chest pain
- Countermeasures
 - Bivouac away from livestock and/or previously inhabited livestock areas
 - Drink only milk approved by the U.S. military



RABIES

- Caused by virus obtained from contact with saliva of infected animal
 - Infected animal can be any warm-blooded animal
 - Symptoms
 - Fever, headache, tingling and discomfort at bite site
 - Anxiety, confusion, agitation, delirium, abnormal behavior, hallucinations, and insomnia
 - Rabies is 100% fatal once symptoms develop
 - Countermeasures
 - Post-exposure treatment is available. Must be administered immediately after exposure.
- Avoid animal contact




RELAPSING FEVER

- Caused by bacteria obtained from tick bites
 - Soft ticks feed for short periods of time (an hour) and the organisms are inoculated within minutes
- Symptoms
 - Periods of fever, chills, headaches, body aches, muscle aches, and cough, alternating with periods when the fever subsides
- Countermeasures → Prevent tick bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net
 - Regular examination of clothing and skin for ticks; promptly remove attached ticks



RIFT VALLEY FEVER

- Caused by virus obtained from mosquito bites or direct contact with infected livestock
 - Increased risk June-September
 - Increased risk during periods of heavy rainfall
- Symptoms
 - Sudden onset of fever, headache, muscle aches, and back pain
 - Severe symptoms and death possible
- Countermeasures  Prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net
 - Bivouac away from livestock




SANDFLY FEVER

- Caused by virus obtained from sand fly bites
 - Increased risk April-November
 - Increased risk from dusk to dawn
- Symptoms
 - Fever, frontal headache, muscle aches, and eye pain
 - Severe cases can have neck rigidity, confusion, and inflammation of the brain
- Countermeasures → Prevent sand fly bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net




Sand flies may be hard to see as they are very small - only about one-third the size of typical mosquitoes

SCHISTOSOMIASIS

- Caused by parasite obtained from infected snails
 - Parasite pierces skin during contact with infested water
- Symptoms
 - Rash or itchy skin within days
 - Fever, cough, and muscle aches within 1-2 months
 - Liver, lung, bladder or intestinal damage possible
- Countermeasures  Avoid water contact
 - Avoid swimming and wading in lakes, rivers, and streams (mission permitting)
 - Immediately apply alcohol to skin and dry briskly with towel after water contact
 - Clothing and boots offer some protection




SINDBIS VIRUS DISEASE

- Caused by virus obtained from mosquito bites
 - Increased risk April-October
- Symptoms
 - Sudden onset of fever, rash, joint pain and arthritis in multiple joints, fatigue, headache and muscle pain
 - Rash possible on face, legs, palms, and soles
- Countermeasures  Prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net



TICK-BORNE ENCEPHALITIS

- Caused by virus obtained from tick bites or unpasteurized dairy products
 - Increased risk March-November
- Symptoms
 - Fever - followed by a 4-10 day recovery - followed by fever and severe brain inflammation
- Countermeasures .  Prevent tick bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net
 - Regular examination of clothing and skin for ticks; promptly remove attached ticks
 - Drink only milk approved by the U.S. military




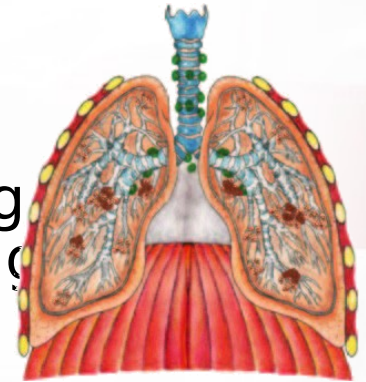
TRYPANOSOMIASIS (African Sleeping Sickness)



- Caused by parasite obtained from tsetse fly bites
 - Symptoms
 - Early – red sore at site of bite, fever, headache, joint pain
 - Late – confusion, sleep cycle disturbance, inflammation of brain, and death
 - Countermeasures
 - Prevent tsetse fly bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net
 - Inspect vehicles for tsetse flies before entering
- Tsetse flies can bite through lightweight clothing and may not be affected by insect repellents

TUBERCULOSIS

- Caused by bacteria obtained from infected persons
 - Infected persons release bacteria during coughing, sneezing, speaking, or spitting
- Symptoms
 - Cough possibly with blood or sputum, chest pain, weight loss, night sweats, fever, and weakness
 - Severe symptoms and death possible
- Countermeasures:  Avoid unnecessary exposure to high-risk populations and buildings
 - Use N95 respiratory protection when directed




TYPHOID - PARATYPHOID FEVERS

- Caused by bacteria obtained from contaminated food and water
- Symptoms
 - Fever, severe headache, constipation, enlarged spleen, and rose spots on the trunk
 - Severe symptoms and death possible
 - Paratyphoid fever is milder
- Countermeasures → Vaccination
 - Consume only food, water, and ice approved by the U.S. military



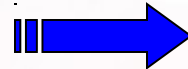
ENDEMIC TYPHUS (Murine Typhus)

- Caused by rickettsia obtained from rodent fleas
 - Increased risk during summer
 - Increased risk in rodent-infested buildings near harbor or river areas
- Symptoms
 - Fever, headache, and/or rash for 1-7 days
- Countermeasures  Prevent flea bites
 - Use the DOD Insect Repellent System
 - Avoidance of rodent populations
 - Prompt removal of fleas from clothing and skin



EPIDEMIC TYPHUS (Louse-Borne Typhus)

- Caused by rickettsia obtained from lice
 - Increased risk in colder months
- Symptoms
 - Headache, chills, prostration, fever, and general pains
 - Rash after five to six days on upper trunk spreading to entire body but not usually face, palms, or soles
 - Severe symptoms and death possible
- Countermeasures
 - Use the DOD Insect Repellent System
 - Maintain proper hygiene



Prevent lice

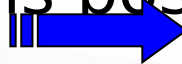
SCRUB TYPHUS

- Caused by rickettsia obtained from mites that live on rodents
 - Increased risk after heavy rain / flooding
 - Symptoms
 - Skin ulcer or “chigger bite” at site of mite attachment
 - Fever, headache, and profuse sweating
 - Dull red rash on trunk spreading to arms and legs
 - Severe symptoms and death possible
 - Countermeasures
 - Use the DOD Insect Repellent System
 - Avoidance of rodent populations
- Prevent mite bites




VIRAL HEMORRHAGIC CONJUNCTIVITIS

- Caused by virus obtained by direct or indirect contact with discharges from infected persons
- Symptoms
 - Rapid eyelid swelling, congestion, pain and increased tearing with bleeding into tissues
 - Severe symptoms possible
- Countermeasures
 - Avoid unnecessary exposure to high-risk populations




Strict personal hygiene

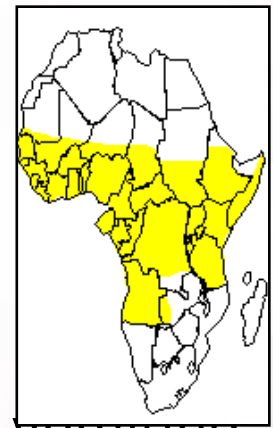
WEST NILE FEVER

- Caused by virus obtained from mosquito bites
 - Increased risk April-October
 - Increased risk during periods of heavy rainfall
- Symptoms – most infections are mild
 - Sudden onset of fever, headache (often frontal), and body aches with swollen lymph glands and eye pain
 - Rash spreading from trunk to arms and legs common
 - Severe cases can have inflammation of the brain
- Countermeasures:  Prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net



YELLOW FEVER

- Caused by virus obtained from mosquito bites
 - Risk increased in yellow fever belt
- Symptoms
 - First phase: fever, muscle pain, backache, headache, shivers, loss of appetite, nausea and/or vomiting
 - Improvement for three to four days
 - Toxic phase: fever, jaundice, abdominal pain, vomiting, and bleeding from mouth, nose, eyes, and/or stomach
 - Death may occur in 10-14 days
- Countermeasures
 - Vaccine
 - Use the DOD Insert  ellent System
 - Sleep under a permethrin-treated bed net



CONTAMINATED WHEAT LIVER TOXIN

- Afghanistan, Pakistan, Tajikistan, Turkmenistan, Uzbekistan
- Contaminated wheat, since 1999
- 400 cases liver disease, (>100 deaths), Herat Province, Afghanistan
- Contaminates wheat and milk products
- Countermeasures → DO NOT consume locally produced raw or processed grain or dairy products

Consuming bread products or milk from animals that have consumed contaminated grains may result in serious health effects

MEDICAL THREAT REGION-COUNTRY



AFMIC VERIFICATION

- The medical intelligence information contained in these briefing slides is based on the AFMIC assessment available at the time of slide production
- USACHPPM recommends verification with AFMIC prior to briefing
- Infectious disease risks change frequently based on refugee migration, weather conditions, and other factors

REGIONAL PROFILES

- Afghanistan/Pakistan
- Central Asia
- Southwest Asia
- Southeast Asia
(Philippines & Indonesia)
- Horn of Africa
- North Africa
- West Africa



AFGHANISTAN/PAKISTAN

- Environmental Health Risks
 - Contaminated food and water
 - Extreme heat and cold
 - Localized air pollution
 - Frequent dust storms
 - High altitude
- Infectious Diseases
 - Diarrhea
 - Hepatitis A
 - Typhoid/paratyphoid fever
 - Dengue fever
 - Malaria
 - Sandfly fever
 - Hepatitis B
 - Rabies

CENTRAL ASIA

“THE STANS”

- Environmental Health Risks
 - Contaminated food and water
 - Extreme heat and cold
 - Localized urban air pollution
 - High altitude
 - Intense sunlight
 - Blowing sand and dust
 - Airbases contaminated with toxic industrial chemicals
- Infectious Diseases
 - Diarrhea
 - Hepatitis A
 - Typhoid/paratyphoid fever
 - Malaria
 - Leishmaniasis (all forms)
 - Hepatitis B
 - Intestinal helminth infections

SOUTHWEST ASIA

- Environmental Health Risks
 - Contaminated food and water
 - Temperature extremes
 - High heat
 - Intense sunlight and humidity
 - Severe dust and sand
 - High altitude
 - Oil well fires

- Infectious Diseases
 - Diarrhea
 - Hepatitis A
 - Rift Valley Fever
 - Leishmaniasis – skin form
 - Schistosomiasis
 - Hepatitis B

SOUTHEAST ASIA (PHILLIPINES/INDONESIA)

- Environmental Health Risks
 - Contaminated food and water
 - High heat and humidity
 - Natural disasters
 - Localized air pollution

- Infectious Diseases
 - Diarrhea
 - Hepatitis A
 - Typhoid/paratyphoid fever
 - Malaria
 - Dengue fever
 - Hepatitis B^P
 - Rabies^P
 - Chikungunya^I

^P Philippines
^I Indonesia

HORN OF AFRICA

- Environmental Health Risks
 - Contaminated food and water
 - Extreme heat
 - Airborne dust and sand
 - Severe flooding due to sudden rainstorms
 - High altitude

- Infectious Diseases
 - Diarrhea including cholera
 - Hepatitis A
 - Typhoid/paratyphoid fever
 - Dengue fever
 - Malaria
 - Arboviral diseases
 - Sandfly fever
 - Rift Valley fever
 - Schistosomiasis
 - Hepatitis B
 - HIV
 - Meningococcal meningitis
 - Rabies

NORTH AFRICA

- Environmental Health Risks
 - Contaminated food and water
 - Extreme heat and cold
 - Intense sunlight
 - Blowing dust and sand
 - Localized air pollution
 - High altitude

- Infectious Diseases
 - Diarrhea
 - Hepatitis A
 - Typhoid/paratyphoid fever
 - Rift Valley fever
 - Sandfly fever

WEST AFRICA

- Environmental Health Risks
 - Contaminated food and water
 - Extreme heat (and humidity in the coastal areas)
 - Intense sunlight
 - Blowing dust and sand
- Infectious Diseases
 - Diarrhea
 - Hepatitis A
 - Typhoid/paratyphoid fever
 - Malaria
 - Arboviral diseases
 - Chikungunya virus
 - Dengue fever
 - Schistosomiasis
 - Crimean-Congo hemorrhagic fever
 - Hepatitis B
 - HIV
 - Lassa fever
 - Meningococcal meningitis
 - Yellow fever

HIDDEN SLIDE

END REGIONAL PROFILES START COUNTRY PROFILES

- **START COUNTRY PROFILES**
 - **HIDE COUNTRY SLIDES NOT USED**

HIDDEN SLIDE

121

V2.0

COUNTRY PROFILES

- Afghanistan
- Algeria
- Bulgaria
- Cuba-GTMO
- Cyprus
- Djibouti
- Egypt
- Eritrea
- Republic of Georgia
- Greece
- Indonesia
- Iran
- Iraq
- Jordan
- Kazakhstan
- Kenya
- Kuwait
- Kyrgyzstan
- Libya
- Mauritania
- Oman
- Pakistan
- Philippines
- Qatar
- Saudi Arabia
- Somalia
- Sudan
- Syria
- Tajikistan
- Turkey
- Turkmenistan
- Uzbekistan
- Yemen

OVERVIEW

- For each country
 - Background
 - Environmental issues
 - Diseases of operational importance (in descending order)
- Primary information resources:
 - Central Intelligence Agency
 - The World Factbook 2001
 - Armed Forces Medical Intelligence Center
 - US Department of State
 - Travel Warnings & Consular Information Sheets
 - CDC Blue Sheet



AFGHANISTAN



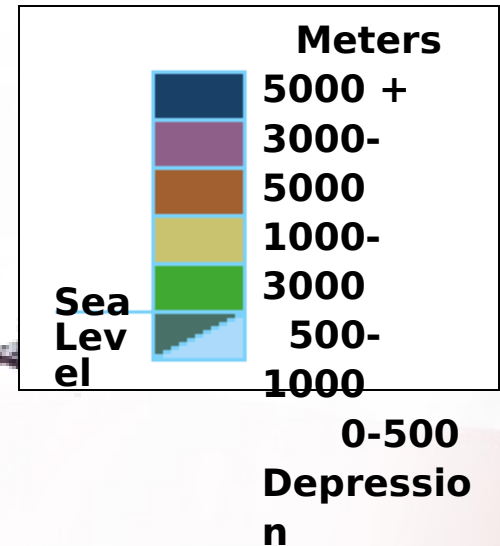
- Civil war / damaged infrastructure
- Deteriorated public health systems



Afghanistan: Environmental Issues

- Topography
- Climate

**Arid to
semiarid; cold
winters and
hot summers**



**Terrain: mostly rugged
mountains; plains in north
and southwest**

***lowest point:* Amu Darya 258
m**

***highest point:* Nowshak**

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. A red rectangular border is positioned around the title text.

Afghanistan: Environmental Issues

- Industries
 - Textiles, fertilizer, coal, iron smelting, cement factories
- Water
 - Contamination from raw sewage in Kabul
 - Large amounts of fertilizer supplied for opium plants

The background of the slide is a stylized American flag, with the stars and stripes visible. The title is enclosed in a red-bordered box.

Afghanistan: Environmental Issues

- Air
 - Contamination with particulates
- Soil
 - Localized contamination
- Food
 - Contamination with liquid and solid wastes
 - Waste from latrines being used as fertilizer

The background of the slide is a faded American flag, showing the stars and stripes. The title is enclosed in a red-bordered box.

Afghanistan: Environmental Issues

- Greatest short-term environmental health risks
 - Fecally-contaminated food/water
 - Extreme heat or cold
 - High altitude
 - Blowing sand and dust

Afghanistan: Diseases of Operational Importance

- High-risk country
- Diseases of greatest risk
 - Food and Waterborne: bacterial diarrhea, hepatitis A, typhoid/paratyphoid fever
 - Vector-borne: malaria
 - Animal-contact: rabies
- Diseases of potential risk
 - Food and Waterborne: protozoal diarrhea, cholera
 - Vector-borne: cutaneous leishmaniasis
 - Sexually transmitted: Gonorrhea/chlamydia

Afghanistan: Diseases of Operational Importance

- Health Risks Related to Caves in Afghanistan
 - Rabies
 - Tick-borne relapsing fever
 - Lack of ventilation
 - Toxic materials (fuels, chemicals)
 - Unexploded ordnance/ammunitions

ALGERIA

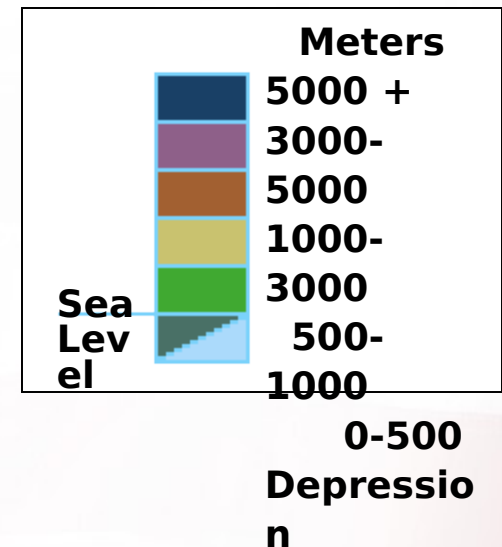


- High population growth/urbanization
- Unchecked industrial growth
- 90% industrial wastewater is untreated
- 35% urban wastewater untreated
- Open dumping of solid waste
- Internal conflicts



Algeria: Environmental Issues

- Topography
- Climate



Arid to semiarid; mild, wet winters with hot, dry summers along coast; drier with cold winters and hot summers on high plateau; sirocco is a hot, dust/sand-laden wind especially common in summer

Terrain: mostly high plateau and desert; some mountains; narrow, discontinuous coastal plain

lowest point: Chott Melrhir -40 m

highest point: Tahat 3,003 m

Algeria: Environmental Issues

- Industries include petroleum refineries, gas production, ethane, detergent, phosphate, and cement plants, insecticide/pesticide facilities and iron and steel mills

Algeria: Environmental Issues

- Air

- Particulate matter, oxides of nitrogen, sulfur dioxide, lead

- Food

- Night soil, improper food preparation and handling
- Fecal contamination
- Chemical contamination

Algeria: Environmental Issues

- Soil

- Untreated sewage, industrial effluent, lead, pesticides

- Water

- Uncontrolled discharge of domestic and industrial waste, fertilizers/pesticides, improper disposal of waste oils
- Microbial contamination
- Many aquifers contaminated or threatened
- Damaged/deteriorating systems

Algeria: Environmental Issues

- Greatest short-term environmental health risks
 - Fecally-contaminated food/water
 - Extreme heat
 - Airborne dust and sand
- Greatest long-term environmental health risks
 - Air contamination in industrial/urban areas
 - Chemical contamination of food/water

Algeria: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and Waterborne: Diarrheal diseases, Hepatitis A, and Typhoid/paratyphoid fevers
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea
 - Vector-borne: Cutaneous leishmaniasis
 - Water contact: Schistosomiasis
 - Sexually transmitted: Gonorrhea/chlamydia

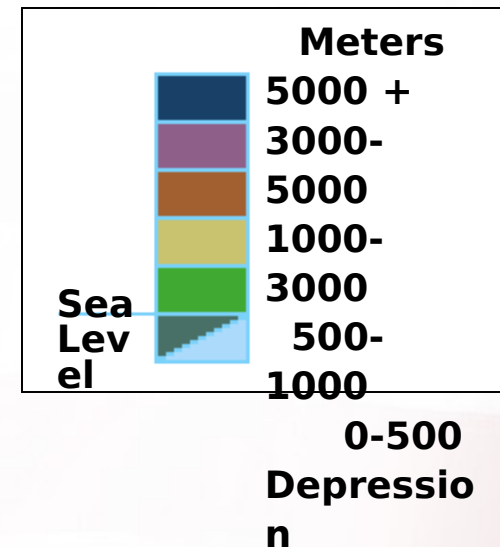
BULGARIA



- Communist domination ended in 1990
- Controls key land routes from Europe to Middle East

Bulgaria: Environmental Issues

- Topography
- Climate



temperate; cold, damp
winters; hot, dry
summers

Terrain:

lowest point: Black Sea 0 m

highest point: Musala 2,925 m

Bulgaria : Environmental Issues

- Industries
 - Worst polluters are metal-working plants and fertilizer manufacturers
 - Industries have been slow to install pollution control systems
- Air
 - Air pollution is worst near industrial areas and power plants
 - Use of brown coal has increased levels of sulfur dioxide in some areas



Bulgaria : Environmental Issues

- Food
 - Vegetables may be contaminated with metals (lead) from cultivation on degraded soil
 - Food may also be contaminated with industrial particulates, pesticides, fertilizers, and fecal pathogens
- Soil
 - Degradation common near industries, mines and waste dumps
- Water
 - Surface and ground water is highly contaminated with fertilizers, untreated sewage, animal wastes and industrial wastes
 - Drinking water treatment systems are ineffective

Bulgaria: Environmental Issues

- Greatest short-term environmental health risks
 - Water contaminated with raw sewage or runoff containing fecal pathogens, or industrial wastes
- Greatest long-term environmental health risks
 - Localized chemical air and water contamination in urban and industrial areas

Bulgaria: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial Diarrhea and Hepatitis A
- Diseases of potential risk
 - Food and Waterborne: Protozoal Diarrhea, Brucellosis, Hepatitis E, Tularemia, Typhoid/Paratyphoid fever
 - Vector-borne: Lyme Disease, Boutonneuse fever, Crimean-Congo Hemorrhagic fever, Tick-borne encephalitis, Murine Typhus (fleaborne), West Nile fever
 - Sexually Transmitted: Gonorrhea and Chlamydia
 - Soil-contact: Hantavirus hemorrhagic fever with renal syndrome
 - Water-contact: Leptospirosis
 - Animal-contact: Q fever, Rabies

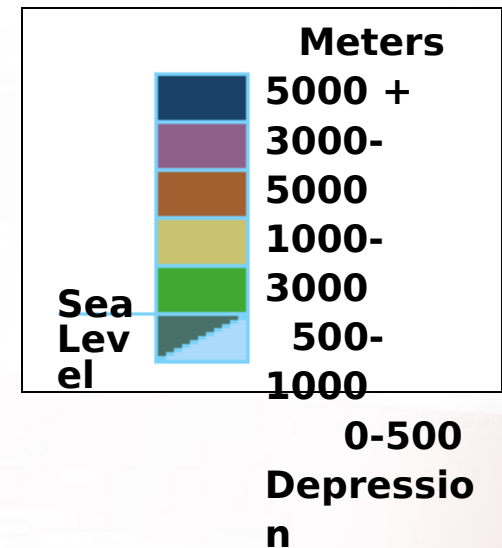
CUBA



Guantanamo Bay (GTMO)

Cuba: Environmental Issues

- Topography
- Climate



Tropical; moderated by trade winds; dry season (November to April); rainy season (May to October)

Guantanamo Bay (GTMO)

Cuba: Environmental Issues

GUANTANAMO BAY

- Environmental health risk are same as the United States
 - Food is approved
 - Water is approved
 - All facilities are at US standards

Cuba: Diseases of Operational Importance

- Cuba is an intermediate risk country
- GTMO is LOW RISK
 - Health risk is comparable to the United States
 - No significant disease threats
- Dengue fever is endemic in Cuba
 - No reported cases of dengue fever at GTMO
 - Minimal risk to personnel in GTMO (AFMIC 18JAN2002)
 - GTMO maintains an active vector surveillance and control program
- Countermeasures for personnel deploying to GTMO
 - Use the DoD Insect Repellent System
 - Treat uniforms with permethrin prior to deployment (mark treatment date inside uniforms)
 - Deploy with and use insect repellent (DEET)

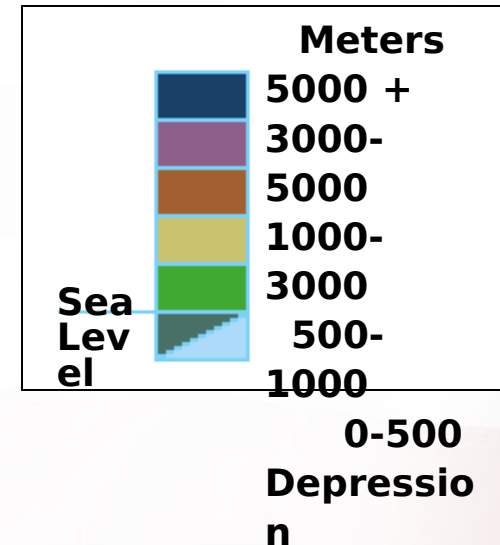
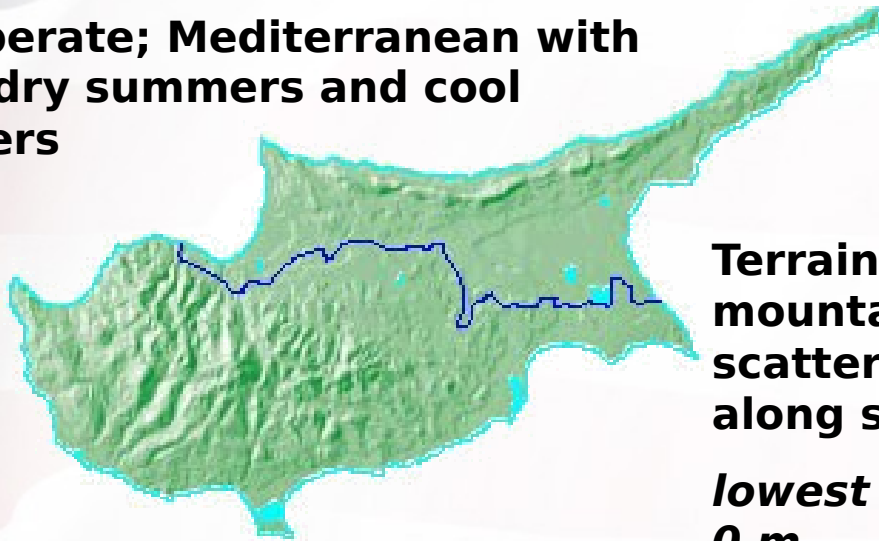
CYPRUS



Cyprus: Environmental Issues

- Topography
- Climate

Temperate; Mediterranean with hot, dry summers and cool winters



Terrain: central plain with mountains to north and south; scattered but significant plains along southern coast

***lowest point: Mediterranean Sea
0 m***

highest point: Olympus 1,951 m

Cyprus : Environmental Issues

- Industries
 - Most air contamination from small-scale industrial sources in close proximity to local inhabitants (no large industrial areas)
- Air
 - Sulfur from industrial and electric power production
 - Lead from vehicle emissions
 - Volatile Organic Chemicals from refinery

Cyprus : Environmental Issues

- Food
 - Fruits may be contaminated with pesticides, especially grapes and grapefruit
- Soil
 - Contamination localized to specific areas surrounding industrial facilities and waste disposal sites
- Water
 - Water resources are insufficient for demand

Cyprus : Environmental Issues

- Greatest short-term environmental health risks
 - Water contaminated with raw sewage or runoff containing fecal pathogens, industrial waste, or agricultural chemicals
- Greatest long-term environmental health risks
 - Air contamination localized near urban and industrial areas

Cyprus: Diseases of Operational Importance

- Low Risk country
- Diseases of greatest risk
 - Vector-borne: Sand fly fever
- Diseases of potential risk
 - Food and Waterborne: Bacterial Diarrhea
 - Vector-borne: Leishmaniasis-cutaneous and mucosal
 - Sexually Transmitted: Gonorrhea and Chlamydia

DJIBOUTI



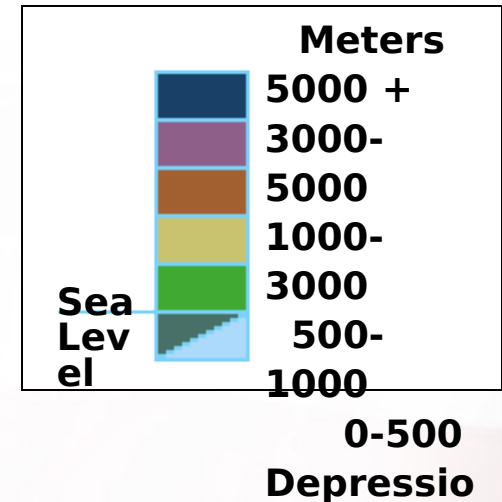
- Strategic location near world's busiest shipping lanes and close to Arabian oilfields
- Terminus of rail traffic into Ethiopia
- Mostly wasteland



Djibouti: Environmental Issues

- Topography
- Climate

**Desert; hot,
dry**



Terrain: coastal plain and plateau separated by central mountains

***lowest point:* Lac Assal -155 m**

***highest point:* Moussa Ali 2,028 m**

Djibouti : Environmental Issues

- Industries
 - Bottling factory, dairy plant, mineral water plant, paper mill, and tanneries
- Air
 - Industrial Air Pollution
 - Air pollution levels often exacerbated by climatic conditions

Djibouti : Environmental Issues

- Food
 - Fecal and chemical contamination
- Soil
 - Localized to specific areas surrounding industrial facilities and waste disposal sites
- Water
 - Municipal water treatment and public sanitation services inadequate
 - Persistent discharge of untreated sewage into surface waters and coastal areas
 - Discharges from offshore tanker traffic contribute to petrochemical contamination of Djibouti's coastline

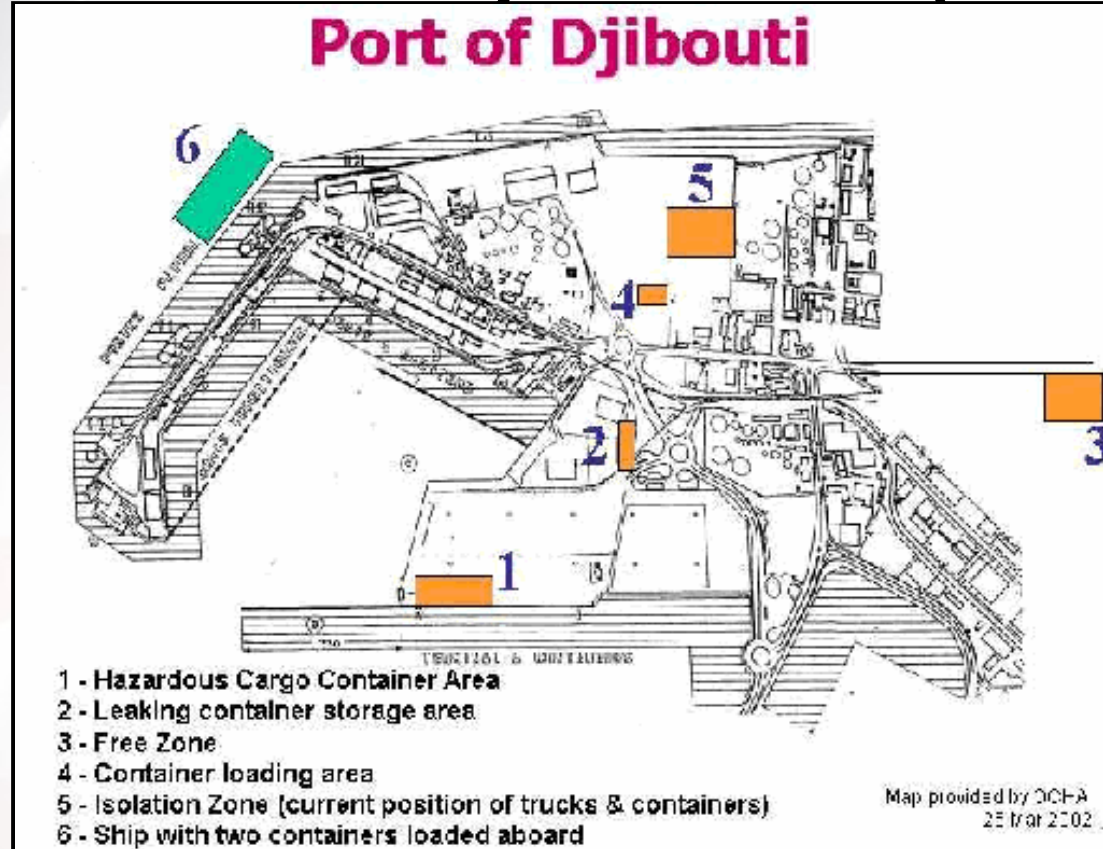
Djibouti : Environmental Issues

Leaking containers of chromated copper arsenate at the Djibouti Port (*DI-1816-54-01*, 22 March



Djibouti : Environmental Issues

Leaking containers of chromated copper arsenate at the Djibouti Port (*DI-1816-54-*



Djibouti : Environmental Issues

Leaking containers of chromated copper arsenate at the Djibouti Port (*DI-1816-54-01, 22 March 2002*)

- The most serious potential health risks are to those personnel who handle the spilled chromated copper arsenate (CCA) or contaminated containers, material, or soil without appropriate personal protective equipment.
- Given the current and planned spill response, and absent direct contact with contaminated material or spilled CCA, there is a minimal health risk to deployed US personnel.

Djibouti : Environmental Issues

- Greatest short-term environmental health risks
 - Water contaminated with untreated sewage
 - Extreme heat
 - Blowing sand (more frequently May through October)
 - Occasional severe flooding as a result of sudden rainstorms

Djibouti : Diseases of Operational Importance

- High risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea (bacterial and cholera), Hepatitis A, Typhoid / paratyphoid fever
 - Vector-borne: Malaria
- Diseases of potential risk
 - Vector-borne: Dengue fever, sand-fly fever, Boutonneuse fever (Mediterranean spotted fever), Chikungunya, Crimean-Congo hemorrhagic fever, Sindbis (Ockelbo) virus, West Nile fever
 - Water contact: Schistosomiasis
 - Sexually transmitted: gonorrhea/ chlamydia

EGYPT



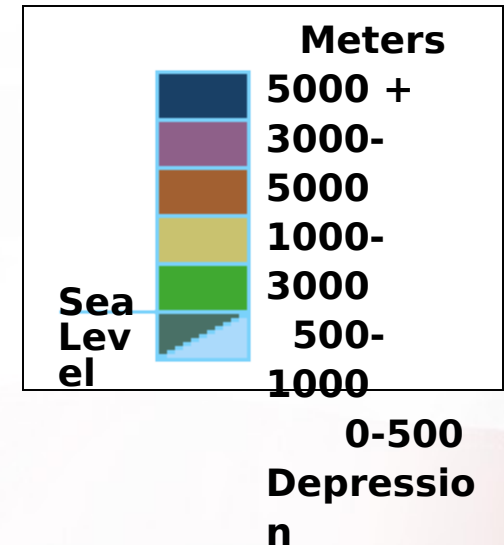
- Controls Sinai Peninsula, only land bridge between Africa and remainder of Eastern Hemisphere
- Controls Suez Canal, shortest sea link between Indian Ocean and Mediterranean Sea



Egypt: Environmental Issues

- Topography
- Climate

Desert; hot, dry summers with moderate winters



Terrain: vast desert plateau interrupted by Nile valley and delta

***Lowest point:* Qattara Depression
-133 m**

***highest point:* Mount Catherine 164**

Egypt: Environmental Issues

- Industries

- Iron, steel, aluminum, chemicals, textiles, metal processing, paint, enamaling, petroleum, petrochemicals

- Air

- Sulfur dioxide, nitrogen oxides, and particulates 2-10 times higher than EPA standards in Cairo
- Air pollution levels often exacerbated by climatic conditions

Egypt: Environmental Issues

- Food
 - Fecal and chemical contamination
- Soil
 - Localized to specific areas surrounding industrial facilities and waste disposal sites
- Water
 - Municipal water treatment and public sanitation services inadequate
 - Significant amounts of run-off pollution

Egypt: Environmental Issues

- Greatest short-term environmental health risks
 - Contaminated food or water
 - Extreme heat
 - High altitude
 - Airborne dust and sand
- Greatest long-term environmental health risks
 - Food or water contaminated with toxic metals or pesticides

Egypt: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea (bacterial) and Hepatitis A
 - Vector-borne: Sandfly fever, Rift Valley fever
- Diseases of potential risk
 - Food and water-borne: Diarrhea (protozoal) and Typhoid/paratyphoid fever
 - Vector-borne: Cutaneous leishmaniasis
 - Water contact: Schistosomiasis
 - Sexually transmitted: gonorrhea/ chlamydia

ERITREA



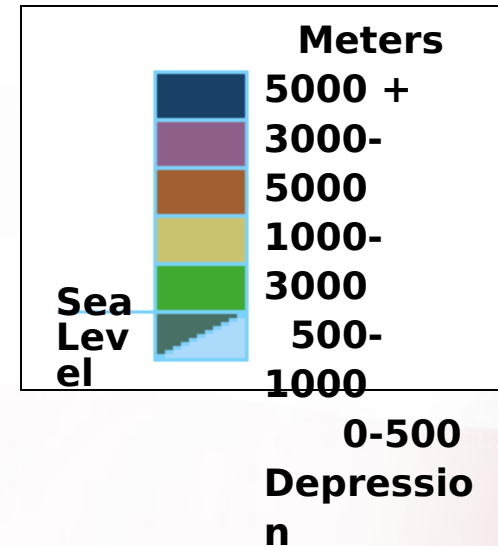
- Strategic geopolitical position along world's busiest shipping lanes
- Deforestation; desertification; soil erosion; overgrazing; loss of infrastructure from civil warfare



Eritrea: Environmental Issues

- Topography
- Climate

Hot, dry desert strip along Red Sea coast; cooler and wetter in the central highlands; semiarid in western hills and lowlands



Terrain: dominated by extension of Ethiopian north-south trending highlands, descending on the east to a coastal desert plain, on the northwest to hilly terrain and on the southwest to flat-to-rolling plains

lowest point: near Kulul within the Denakil depression 1750m

highest point: Soira 3.018 m

Eritrea: Environmental Issues

- Industries
 - Predominantly an agrarian society dependent on traditional farming, livestock production, and fishing
 - Salt, glass, leather, and textile enterprises; Metal and chemical product factories; recycled plastics, rubber goods, and recycled metal factories
- Air
 - The lack of an extensive industrial infrastructure in Eritrea results in few air contamination issues
 - Localized air contamination may occur near specific industrial facilities or urban areas

Eritrea: Environmental Issues

- Food
 - Fecal, chemical, virus, and parasite contamination
- Soil
 - Localized to specific areas surrounding industrial facilities and waste disposal sites
- Water
 - Municipal water treatment and public sanitation services inadequate
 - Contaminated with raw sewage or runoff containing fecal pathogens, pesticides, fertilizers, and industrial chemicals from offshore spills

Eritrea: Environmental Issues

- Greatest short-term environmental health risks
 - Contaminated food or water
 - Extreme heat
 - High altitude
- Greatest long-term environmental health risks
 - Food or water contaminated with toxic metals or pesticides

Eritrea: Diseases of Operational Importance

- High risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea (bacterial) and Hepatitis A, Typhoid/paratyphoid fever, parasites
 - Vector-borne: Malaria (year-round)
 - Respiratory: Meningococcal meningitis
- Diseases of potential risk
 - Food and water-borne: Diarrhea (protozoal)
 - Vector-borne: Leishmaniasis (all forms); fevers: Rift Valley, sandfly, Boutonneuse, Crimean-Congo hemorrhagic, relapsing, and West Nile
 - Water contact: Leptospirosis

REPUBLIC OF GEORGIA



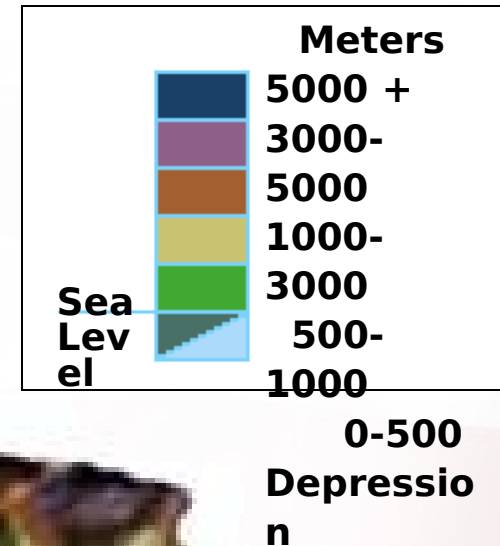
- Strategically important for controlling access routes through the Caucasus Mountains
- Chronic energy crisis results in frequent and prolonged power outages especially during winter



Georgia: Environmental Issues

- Topography
- Climate

**Warm and pleasant;
Mediterranean-like
on Black Sea coast**



Terrain: largely mountainous in the north and south; lowlands in the west; river basin in the east

***lowest point:* Black Sea 0 m**

***highest point:* Mt'a Mqinvarsveri (Gora**

176

Georgia: Environmental Issues

- Industry
 - Oil and energy production, metallurgy, mining (coal), chemical manufacturing, and agriculture
- Water
 - Sewage, oil products, nitrous ammonia, organic substances, and heavy metals in surface water
 - Heavily-polluted rivers also contain excess levels of phenols, hydrocarbons, copper, manganese, zinc, and nitrogen
- Air
 - Vehicle emissions and large industrial facilities

Georgia: Environmental Issues

- Greatest short-term environmental health risks
 - Contamination of water supplies due to deterioration and inadequacies in treatment facilities
 - Industrial pollution of water and air
 - Contamination of soil from industry and agricultural practices

Georgia: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and water-borne: bacterial diarrhea, hepatitis A
 - Soil contact: hantavirus hemorrhagic fever with renal syndrome
- Diseases of potential risk
 - Food and water-borne: protozoal diarrhea, typhoid/paratyphoid fever
 - Vector-borne: Tahyna virus, leishmaniasis, sandfly fever, Sindbis fever
 - Water contact: leptospirosis
 - Animal contact: rabies
 - Sexually transmitted: gonorrhea/chlamydia

Georgia: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and water-borne: bacterial diarrhea, hepatitis A
 - Soil contact: hantavirus hemorrhagic fever with renal syndrome

Georgia: Diseases of Operational Importance

- Diseases of potential risk
 - Food and water-borne: brucellosis, cholera, hepatitis E, protozoal diarrhea, tularemia, typhoid/paratyphoid fever
 - Vector-borne: leishmaniasis, Lyme disease, malaria, plague, sandfly fever, Sindbis virus, Tahyna virus, tick-borne encephalitis, typhus (louse and murine), various other fevers
 - Sexually transmitted: gonorrhea/chlamydia, hepatitis B, HIV/AIDS, syphilis
 - Water contact: leptospirosis
 - Respiratory: meningococcal meningitis, tuberculosis
 - Animal contact: anthrax, Q fever, rabies

Georgia: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and water-borne: bacterial diarrhea, hepatitis A
 - Soil contact: hantavirus hemorrhagic fever with renal syndrome
- Diseases of potential risk
 - Food and water-borne: protozoal diarrhea, typhoid/paratyphoid fever
 - Vector-borne: Tahyna virus, leishmaniasis, sandfly fever, Sindbis fever
 - Water contact: leptospirosis
 - Animal contact: rabies
 - Sexually transmitted: gonorrhea/chlamydia

GREECE



Greece: Environmental Issues

- Topography
- Climate

Mild winters, hot dry summers in the South; humid summers, wet, cold winters in the North



Terrain: mostly mountains with ranges extending into the sea as peninsulas or chains of islands

lowest point: Mediterranean Sea
0 m

Greece: Environmental Issues

- Air
 - Vehicle emissions=smog in larger cities
 - Acid Rain from unregulated industrial emissions
- Water
 - Larger cities generally have good water treatment programs
 - Water in less populated areas is not considered potable

Greece: Environmental Issues

- Dangerous Animals

- Three types of indigenous vipers (sand, long-nosed, and Levantine)
- Brown recluse and Black widow spiders
- Centipedes, Scorpions, Sea urchins, and Stinging Coral

- Dangerous Plants

- Celandine poppy
- English galangale
- Smoke tree



Sand Viper



Levantine Viper



Celandine Poppy

Greece: Diseases of Operational Importance

- **Low risk country**
- **Diseases of greatest risk**
 - Food and water-borne: Diarrheal diseases, Typhoid/paratyphoid fever
 - Vector-borne: Tick-borne encephalitis, Crimean-Congo Hemorrhagic fever, West Nile fever, Sindbis virus disease, Tahnya fever, Tick-borne relapsing fever, Boutonneuse fever, and Lyme disease
- **Diseases of potential risk**
 - Food and water-borne: Hepatitis A, Brucellosis
 - Vector-borne: Leishmaniasis, Sand fly fever
 - Water contact: Leptospirosis
 - Respiratory: Acute Respiratory Infections
 - Sexually transmitted: gonorrhea/chlamydia
 - Animal contact: Hantavirus, Anthrax

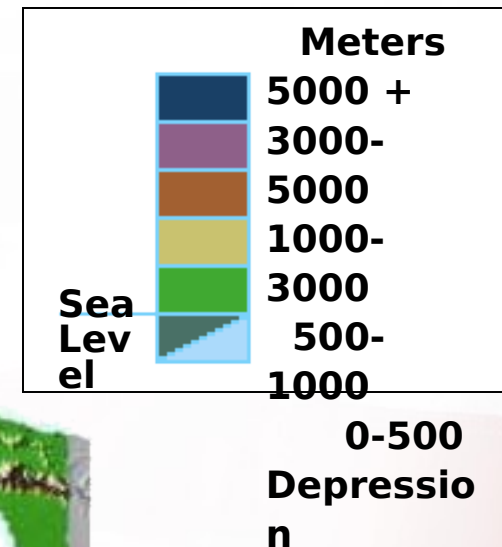
INDONESIA



- Archipelago of 17,000 islands (6,000 inhabited); straddles Equator
- Strategic location astride or along major sea lanes from Indian Ocean to Pacific Ocean

Indonesia: Environmental Issues

- Topography
- Climate



Tropical; hot, humid; more moderate in highlands

Terrain: mostly coastal lowlands; larger islands have interior mountains

***lowest point:* Indian Ocean 0 m**

***highest point:* Puncak Jaya 189**

Indonesia: Environmental Issues

- Major industries in Indonesia include textiles, wood and paper products, processed rubber, cement, oil refineries, mining, steel, and spices
- Air
 - Vehicle emissions
 - Oil refineries
 - Burning of refuse and forests

Indonesia: Environmental Issues

- Food
 - Specific information unavailable
- Soil
 - Asbestos in East Timor
- Water
 - Raw sewage
 - Industrial pollutants
 - Residual pesticides

Indonesia: Environmental Issues

- Greatest short-term environmental health risks
 - Contaminated water
 - Heat and humidity

Indonesia: Diseases of Operational Importance

- High risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrheal diseases, Typhoid/paratyphoid fever, Hepatitis A
 - Vector-borne: Dengue fever, Malaria, Chikungunya
- Diseases of potential risk
 - Vector-borne: Scrub typhus (mite borne), Murine or endemic typhus (flea borne)
 - Water contact: Schistosomiasis
 - Sexually transmitted: gonorrhea/chlamydia

IRAN



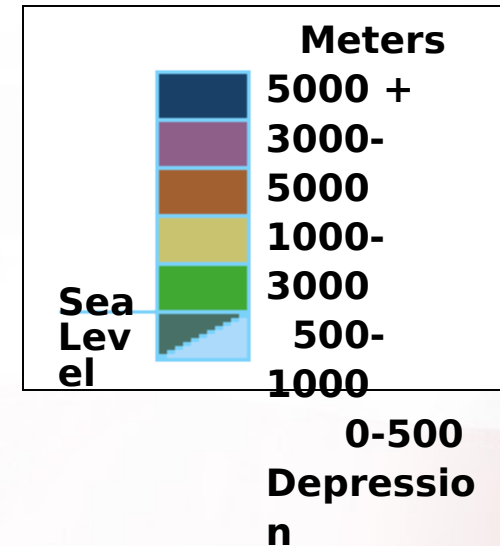
- Strategic location on the Persian Gulf and Strait of Hormuz, which are vital maritime pathways for crude oil transport



Iran: Environmental Issues

- Topography
- Climate

Mostly arid or semiarid, subtropical along Caspian coast



Terrain: rugged, mountainous rim; high, central basin with deserts, mountains; small, discontinuous plains along both coasts

lowest point: Caspian Sea -28 m
highest point: Qolleh-ye Damavand 5676 m

Iran: Environmental Issues

- Industries
 - Petrochemical facilities, aluminum, benzene, chlorine, cement, ethylene oxide and ethylene glycol, hydrogen, iron and steel mills, tires, and sulfuric acid plants

Iran: Environmental Issues

- Water
 - Supplies are contaminated with raw sewage and untreated industrial waste
 - Persian Gulf coast contaminated with raw sewage and oil
 - Ground water contamination in Tehran due to heavy metals
 - Gargar River (Shushtar City) severely polluted

Iran: Environmental Issues

- Air
 - Tehran's air is highly polluted
- Food
 - Industrial wastewater is often times used to irrigate vegetables

Iran: Environmental Issues

- Environmental factors posing the greatest health risk (in descending order)
 - Water contaminated with raw sewage and industrial wastes
 - Temperature extremes
 - Localized air pollution primarily in Tehran
 - Occasional dust and sand storms
 - High altitude (mountain ranges)

Iran: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A, Typhoid/paratyphoid fever
 - Vector-borne: Malaria
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea
 - Vector-borne: Cutaneous leishmaniasis, Sandfly fever
 - Water contact: Leptospirosis
 - Sexually transmitted: Gonorrhea/chlamydia

IRAQ

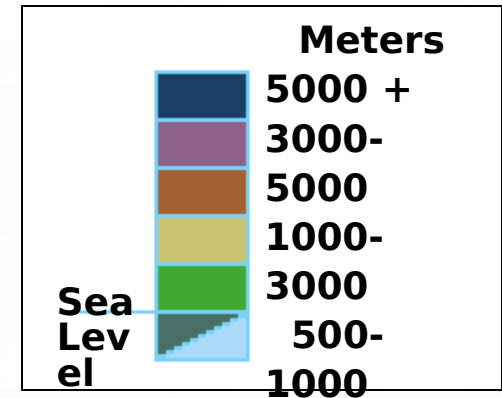


- Strategic location on Shatt al Arab waterway and at the head of the Persian Gulf
- UN trade sanctions remain in effect due to incomplete Iraqi compliance with relevant UN Security Council resolutions



Iraq: Environmental Issues

- Topography
- Climate



Mostly desert; mild to cool winters with dry, hot, cloudless summers; northern mountainous regions along Iranian and Turkish borders experience cold winters with occasionally heavy snows



Terrain: mostly broad plains; reedy marshes along Iranian border south with large flooded areas; mountains along borders with Iran and Turkey

lowest point: Persian Gulf 0 m

highest point: Hajj Ibrahim 202 m

Iraq: Environmental Issues

- Industries
 - Petrochemical plants, petroleum refining, iron and steel manufacturing, cement plants, power generation, textiles production, and food processing plants
- Water
 - Contamination due to inadequately treated domestic and industrial liquid and solid waste, deteriorated water treatment and distribution systems, excessive use of fertilizers and pesticides, and improper disposal of waste oils

Iraq: Environmental Issues

- Air
 - Particulates – Sand and Dust
 - Petroleum refineries
 - Other industrial production facilities
 - Vehicle exhaust
- Food
 - Contamination with fecal pathogens
 - Chemical contamination
 - Contaminated grains (wheat products)
 - Fish, fruits, and vegetables contaminated with pesticides

Iraq: Environmental Issues

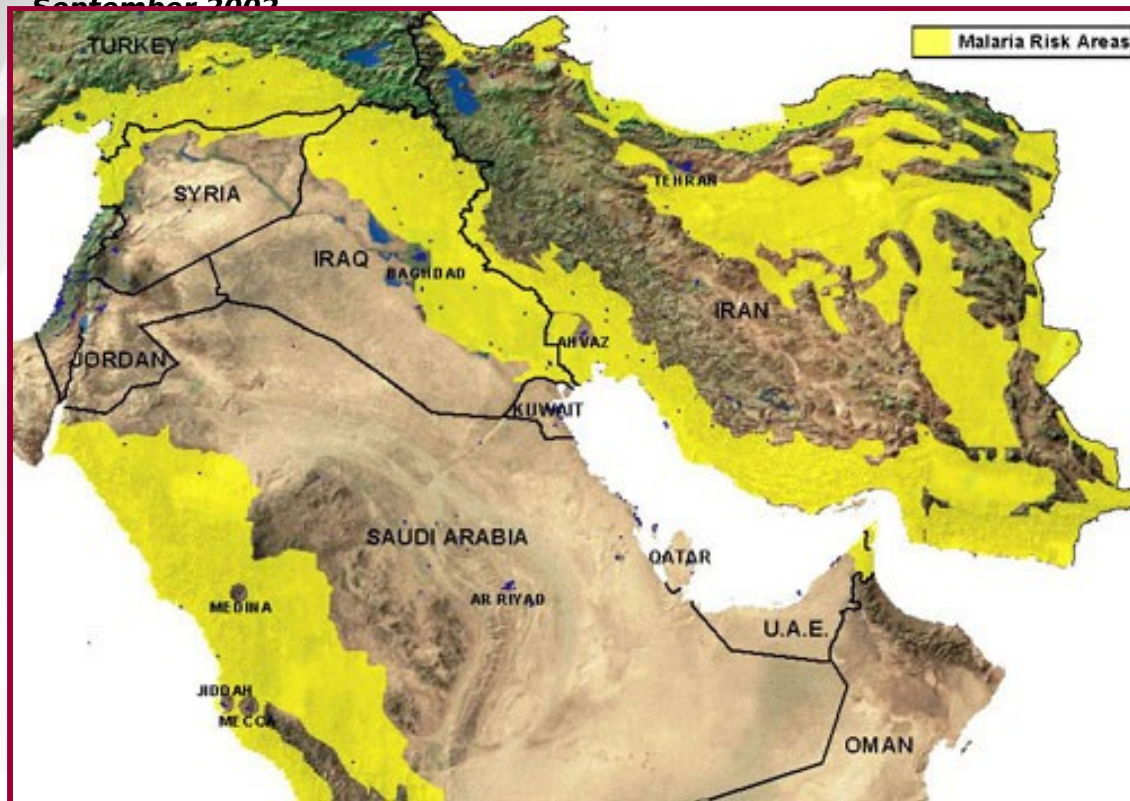
- Environmental factors posing the greatest health risk (in descending order)
 - Water contaminated with raw sewage, fertilizers, industrial discharges
 - Seasonal temperature extremes
 - Dust and sand storms (esp. May to October)
 - Localized air pollution
 - Localized food contamination

Iraq: Diseases of Operational Importance

- High-risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A, Typhoid/paratyphoid fever
 - Vector-borne: Malaria
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea
 - Vector-borne: Cutaneous leishmaniasis, Sandfly fever
 - Sexually transmitted: Gonorrhea/chlamydia

MALARIA DISTRIBUTION (IRAQ REGION)

(U) AFMIC Medical Intelligence Note 035-02, (DI-1812-227-02), 5
September 2002



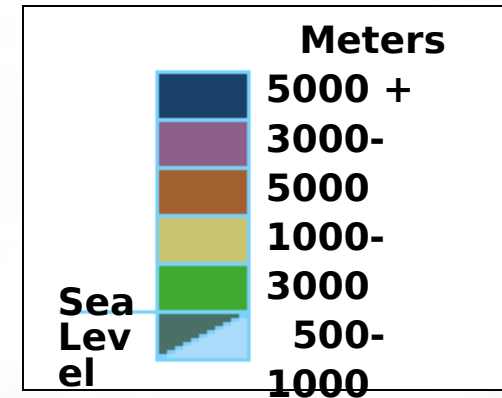
Although malaria transmission occurs in the region, exact information on the distribution of human cases and infected mosquito vectors is lacking. This assessment approximates the geographic distribution of malaria during the transmission season. Boundaries of the risk area should not be interpreted as strict demarcations. Malaria risk is not uniform throughout the region, but varies with multiple ecological factors such as human population density and vector

JORDAN



Jordan: Environmental Issues

- Topography
- Climate



0-500
Depressio

Mostly arid desert; rainy season in west (November to April)

Terrain: mostly desertⁿ plateau in east, highland area in west; Great Rift Valley separates East and West Banks of the Jordan River

lowest point: Dead Sea -408 m

highest point: Jabal Ragm 2091 m
1.754 m

Jordan: Environmental Issues

- Industries
 - Petrochemical and fertilizer plants, petroleum refining, mining operations, steel manufacturing, cement plants, power generation, and food processing plants
- Air
 - Contamination from industrial plants and vehicle exhaust includes lead, particulate matter, oxides of nitrogen, sulfur dioxide
- Food
 - Fecal contamination from fertilizers
 - Chemical contamination from industrial activities
 - Pesticide contamination of dairy products, fruits, meats, and vegetables

Jordan: Environmental Issues

- Soil
 - Contamination localized to areas near petroleum and natural gas production, industrial facilities, and waste disposal sites
- Water
 - Contaminated with raw sewage, industrial discharges, and agricultural runoff
 - Sewage and water treatment systems are inadequate

Jordan: Environmental Issues

- Greatest short-term health risks
 - Consumption of food or water contaminated with raw sewage or runoff containing fecal pathogens
 - Extreme heat
 - Airborne dust and sand
- Greatest long-term health risks
 - Air contamination in industrial and urban areas
 - Chemical contamination of food and water

Jordan: Diseases of Operational Importance

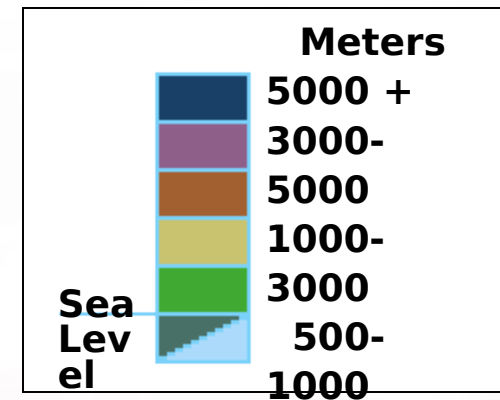
- Intermediate risk country
- Diseases of greatest risk
 - Food/water-borne: diarrhea-bacterial, hepatitis A
- Diseases of potential risk
 - Food/water-borne: Diarrhea-protozoal, typhoid/paratyphoid fever, brucellosis, hepatitis E
 - Vector-borne: Cutaneous, mucosal, and visceral leishmaniasis, Boutonneuse fever, Sand fly fever, West Nile fever, Sindbis virus
 - Sexually transmitted: Hepatitis B, gonorrhea/chlamydia
 - Water contact: Schistosomiasis and Leptospirosis
 - Animal contact: Rabies and Q fever

KAZAKHSTAN



Kazakhstan: Environmental Issues

- Topography
- Climate



0-500

Terrain: extends from the Volga to the Altai Mountains and from the plains in western Siberia to oases and desert in Central Asia

Continental, cold winters and hot summers, arid and semiarid

lowest point: Vpadina Kaundy
-132 m

highest point: Khan Tangiri
Shynqy (Pik Khan-Tengri) 6,995 m

Kazakhstan: Environmental Issues

- Environmental factors posing the greatest health risk (in descending order)
 - Water contamination from industrial and municipal sources
 - Air pollution in major industrialized urban areas
 - Radiologically contaminated areas, including military test sites
 - Nuclear waste disposal sites

Kazakhstan: Environmental Issues

- Industries
 - Agriculture, metallurgy (copper, coal, zinc, and silver), mining, petroleum production and refining. Nuclear weapon testing grounds involve a large section of the country
- Air
 - Coal-fired power production, heating plants, vehicle traffic, metallurgy production, and oil refineries
- Food
 - Contamination from industrial, agricultural, and inadequate wastewater treatment facilities

Kazakhstan: Environmental Issues

- Soil
 - Uranium mining and processing is a common industry in Kazakhstan
 - Vast land areas are completely unsuitable for living because of mining activities. Soil pollution levels for heavy metals and pesticides are extremely high in some areas.
- Water
 - Municipal wastewater treatment facilities are inadequate, resulting in high levels of sewage contamination in many water sources. Surface waters are polluted with hydrocarbons, heavy metals, pesticides, and fertilizers.

Kazakhstan: Environmental Issues

- Radiological Contamination
 - Former Soviet Union's nuclear weapons proving ground located at Semipalatinsk
 - One of the most radiologically contaminated areas in the world
 - Uranium mining and processing
 - Radioactive waste

Kazakhstan: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food/water-borne: diarrhea-bacterial, hepatitis A, intestinal parasite infections
 - Vector-borne: cutaneous leishmaniasis, malaria, tick-borne encephalitis
- Diseases of potential risk
 - Food/water-borne: Diarrhea-protozoal, typhoid/paratyphoid fever, brucellosis, hepatitis E
 - Vector-borne: Crimean-Congo hemorrhagic fever, West Nile fever, Issyk-Kul fever, lyme disease, Syr-Darya Valley fever, Sindbis virus, sandfly fever
 - Sexually transmitted: Hepatitis B, gonorrhea/chlamydia

KENYA



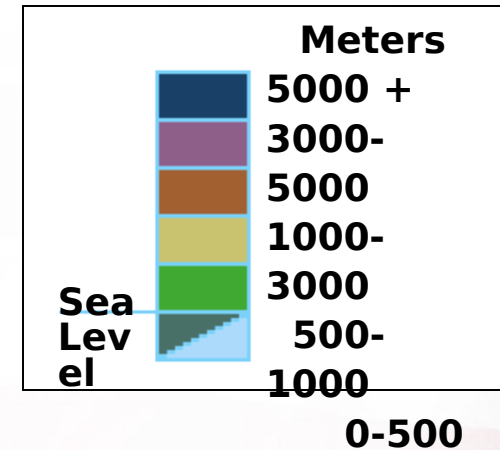
- Most successful agricultural production regions in Africa
- Political uncertainty



Kenya: Environmental Issues

- Topography
- Climate

Varies from tropical along coast to arid in interior



Terrain: low plains rise to central highlands bisected by Great Rift Valley; fertile plateau in west

***lowest point:* Indian Ocean
0 m**

***highest point:* Mount
Kenya 5,199 m**

Kenya: Environmental Issues

- Industries
 - Predominantly an agrarian society
 - Leather and textile industries, food and beverage processing plants, oil refining, and metals processing, chemical, and cement plants
- Air
 - The lack of an extensive industrial infrastructure in Kenya results in few air contamination issues
 - Localized air contamination may occur near specific industrial facilities or urban areas

Kenya: Environmental Issues

- Food
 - Fecal (human and animal) and chemical contamination
- Soil
 - Contaminated with untreated sewage, industrial effluent, lead from vehicle exhaust, and improper chemical storage practices
- Water
 - Uncontrolled discharge of domestic and industrial liquid and solid waste, excessive use of fertilizers and pesticides, and improper disposal of waste oils

Kenya: Environmental Issues

- Greatest short-term environmental health risks
 - Contaminated food or water
 - Extreme heat
 - High altitude
 - Airborne dust and sand
- Greatest long-term environmental health risks
 - Food or water contaminated with toxic metals or pesticides

Kenya: Diseases of Operational Importance

- HIGHEST RISK country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea (bacterial) and Hepatitis A, Typhoid/paratyphoid fever, parasites
 - Vector-borne: Malaria, Rift Valley fever
 - Water-contact: Schistosomiasis
 - Animal-contact: Rabies
 - Sexually transmitted: HIV/AIDS

Kenya: Diseases of Operational Importance

- Diseases of potential risk
 - Food and water-borne: Diarrhea (cholera & protozoal), brucellosis
 - Vector-borne: Leishmaniasis (cutaneous and mucosal); Boutonneuse fever, Chikungunya, Crimean-Congo hemorrhagic fever, dengue fever, Sindbis virus, West Nile fever, and African trypanosomiasis
 - Water contact: Leptospirosis
 - Sexually transmitted: gonorrhea/chlamydia

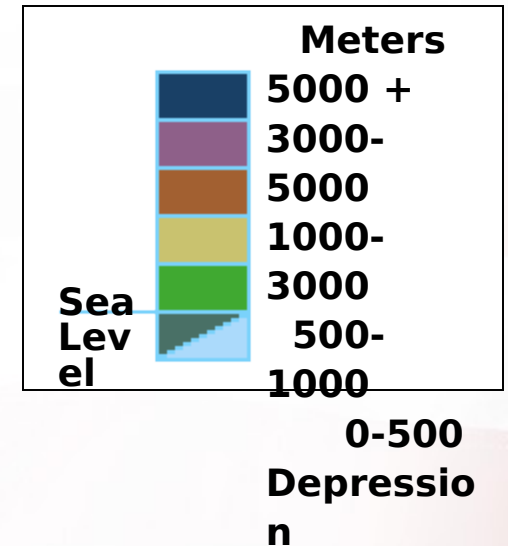
KUWAIT



Kuwait: Environmental Issues

- Topography
- Climate

**Dry desert;
intensely hot
summers; short,
cool winters**



**Terrain: flat to slightly
undulating desert plain**

***lowest point:* Persian Gulf 0 m**
***highest point:* unnamed location
306 m**

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Kuwait: Environmental Issues

- Industries
 - Petroleum and petrochemical
- Air
 - Petroleum refineries and petrochemical manufacturing
 - Energy and desalination plants
- Food
 - Seafood contaminated with toxic metals

Kuwait: Environmental Issues

- Soil
 - Environmental warfare, industrial waste disposal, and deposition of airborne particulate matter
- Water
 - Groundwater brackish, not potable

Kuwait: Environmental Issues

- Greatest short-term environmental health risks
 - Extreme heat
 - Airborne dust and sand
- Greatest long-term environmental health risks
 - Ingestion of food or water contaminated with toxic metals.

Kuwait: Diseases of Operational Importance

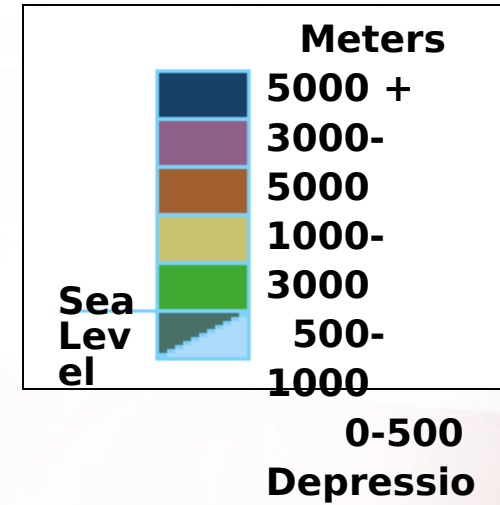
- Low risk country
- Diseases of greatest risk
 - Food and water-borne: diarrhea-bacterial, hepatitis A
- Diseases of potential risk
 - Food and water-borne: diarrhea-protozoal, typhoid/paratyphoid fever
 - Vector-borne: sandfly fever
 - Sexually transmitted: gonorrhea/chlamydia

KYRGYZSTAN



Kyrgyzstan: Environmental Issues

- Topography
- Climate



Dry continental to polar in high Tien Shan; subtropical in southwest (Fergana Valley); temperate in northern foothill zone

Terrain: peaks of Tien Shan and associated valleys and basins encompass entire nation

***lowest point:* Kara-Daryya 132 m**

***highest point:* Jengish Chokusu 7,439 m**

235

Kyrgyzstan: Environmental Issues

- Greatest short-term health risks
 - Consumption of water contaminated with raw sewage or runoff containing fecal pathogens
 - Low winter temperatures
 - High altitude (95% of country is greater than 5,000 feet)
- Greatest long-term health risks
 - Consumption of water contaminated with industrial discharges, mine tailings, and agricultural chemicals

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The title is enclosed in a white box with a thin red border.

Kyrgyzstan: Environmental Issues

- Industries
 - Agriculture, metallurgy (copper, coal, zinc, and silver), mining, and power production.
- Air
 - Coal-fired power production, heating plants, vehicle traffic, metallurgy production, and other industrial/production sources
- Food
 - Contamination from industrial, agricultural, and inadequate wastewater treatment facilities

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The stars are white on a blue field, and the stripes are red and white.

Kyrgyzstan: Environmental Issues

- Soil
 - Poor waste disposal practices (to include hazardous waste)
- Water
 - Contaminated with raw sewage, oils, leachate from mine tailings (including heavy metals and radionuclides), and agricultural runoff containing animal wastes, pesticides, and fertilizers

Kyrgyzstan: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food/water-borne: diarrhea-bacterial, hepatitis A
 - Vector-borne: cutaneous leishmaniasis, malaria, tick-borne encephalitis
- Diseases of potential risk
 - Food/water-borne: Diarrhea-protozoal, typhoid/paratyphoid fever, brucellosis, hepatitis E
 - Vector-borne: Crimean-Congo hemorrhagic fever, West Nile fever, lyme disease, Sindbis virus
 - Sexually transmitted: Hepatitis B, gonorrhea/chlamydia
 - Water contact: Leptospirosis

LIBYA

- High population growth/urbanization
- Internal and external conflict and UN sanctions



Libya: Environmental Issues

- Topography
- Climate

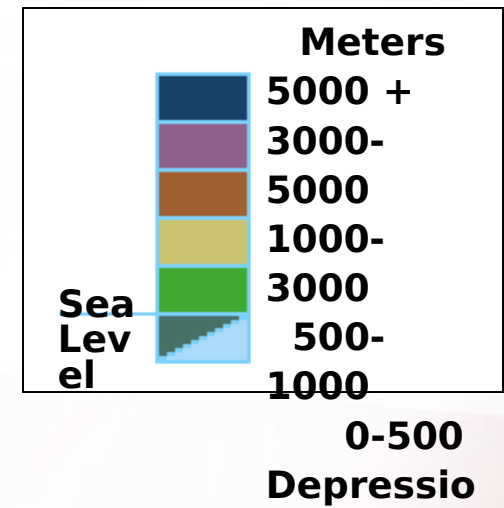


**Mediterranean
along coast; dry,
extreme desert
interior**

**barren,
undulating
plateaus,**

***lowest point:* Sabkhat Ghuzayyil
-47 m**

***highest point:* Bikku Bitti 2,267
m**



**Terrain: mostly
flat to
plains,
depressions**

Libya: Environmental Issues

- Industries: petrochemical plants, textiles milling, power generation, iron and steel manufacturing, and cement plants
- Air
 - Particulate matter, oxides of nitrogen, sulfur dioxide, lead
 - Acute respiratory symptoms, lead toxicity
- Food
 - Night soil, improper food preparation and handling
 - Chemical contamination

Libya: Environmental Issues

- Soil
 - Untreated sewage, industrial effluent, lead, pesticides
- Water
 - Raw sewage, agricultural run-off, industrial discharges
 - Microbial contamination
 - Seawater intrusion into coastal aquifers
 - Damaged/deteriorating systems

Libya: Environmental Issues

- Greatest short-term environmental health risks
 - Fecally-contaminated food/water
 - Extreme heat
 - Airborne dust and sand
- Greatest long-term environmental health risks
 - Air contamination in industrial/urban areas
 - Chemical contamination of food/water

Libya: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and Waterborne: Diarrheal diseases, Hepatitis A, and Typhoid/paratyphoid fevers
 - Vector-borne: Potential for wide variety of diseases due to seasonal conditions (combined risk is high)
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea
 - Vector-borne: Cutaneous leishmaniasis
 - Water contact: Schistosomiasis
 - Sexually transmitted: Gonorrhea/chlamydia

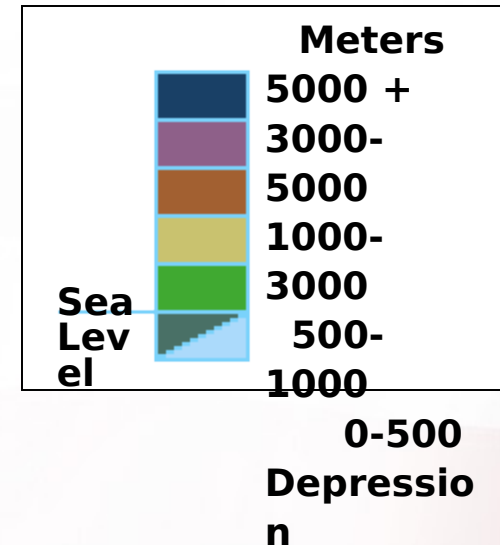
MAURITANIA



Mauritania: Environmental Issues

- Topography
- Climate

**Desert; constantly
hot, dry, dusty**



**Terrain: mostly
barren, flat plains of
the Sahara; some central
hills**

***lowest point:* Sebkh de
Ndrhamcha -3 m**

***highest point:* Kediet Ijill 910 m**

Mauritania: Environmental Issues

- Industries
 - Copper mining, fish processing units in Nouadhibou, gold mining, iron mining in Zouerate, petroleum refineries in Nouadhibou, and sugar mills
- Air
 - Emissions from vehicles using leaded gasoline
 - Particulates from trash burning
- Food
 - Fish processing with water contaminated with fuel oil and raw sewage

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The title is enclosed in a white rectangular box with a thin red border.

Mauritania: Environmental Issues

- Soil
 - Pesticides
- Water
 - Raw sewage
 - Surface water contamination during seasonal floods
 - Agrochemical overuse and increasing industrial activities

The background of the slide is a faded American flag, showing the stars and stripes. The title is enclosed in a red-bordered box.

Mauritania: Environmental Issues

- Greatest short-term environmental health risks
 - Contaminated water supply
 - Temperature extremes
 - Localized air pollution

Mauritania: Diseases of Operational Importance

- High risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea-bacterial, Hepatitis A, and Typhoid/paratyphoid fever
 - Vector-borne: Malaria and Arboviral diseases
- Diseases of potential risk
 - Food and water-borne: Diarrhea-protozoal and Cholera
 - Vector-borne: Rift Valley fever and Cutaneous leishmaniasis
 - Sexually transmitted: Gonorrhea/chlamydia
 - Water contact: Schistosomiasis

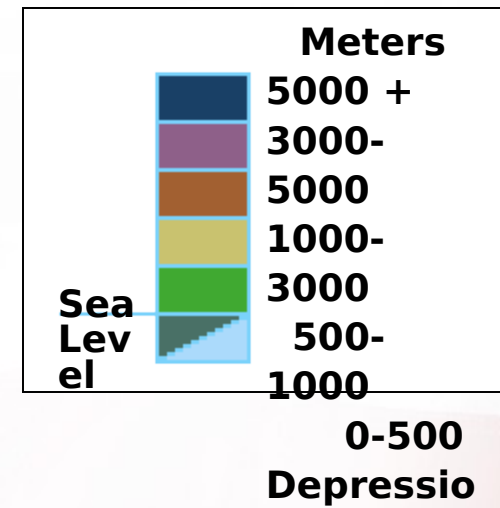
OMAN



Oman: Environmental Issues

- Topography
- Climate

Dry desert; hot, humid along coast; hot, dry interior; strong southwest summer monsoon (May to September) in far south



Terrain: central desert plain, rugged mountains in north and south

lowest point: Arabian Sea 0 m
highest point: Jabal Shams 2,980 m

Oman: Environmental Issues

- Industries
 - Petroleum, petrochemicals, copper and chromite production, textiles, fertilizer and cement plants
- Air
 - Mainly from power and desalination plants, vehicle exhaust, waste disposal plants, petroleum refineries, fertilizer and detergent plants, and cement production facilities

Oman: Environmental Issues

- Food
 - Specific information unavailable
- Soil
 - Specific information unavailable
 - Soil contamination generally localized to specific areas surrounding industrial facilities and waste disposal sites
- Water
 - Contaminated by raw sewage, industrial discharge, excessive use of fertilizers and pesticides, and waste oils

Oman: Environmental Issues

- Greatest short-term environmental health risks
 - Consumption of food or water contaminated with fecal pathogens or water contaminated with raw sewage
 - Temperature extremes
 - High altitude
 - Sandstorms

Oman: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea-bacterial and Hepatitis A
- Diseases of potential risk
 - Food and water-borne: Diarrhea-protozoal, Typhoid/paratyphoid fever
 - Vector-borne: Cutaneous leishmaniasis and sandfly fever
 - Sexually transmitted: gonorrhea/chlamydia

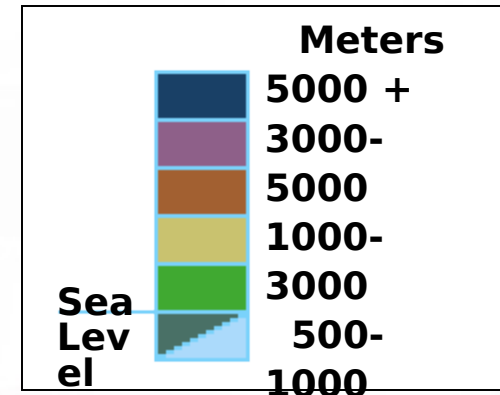
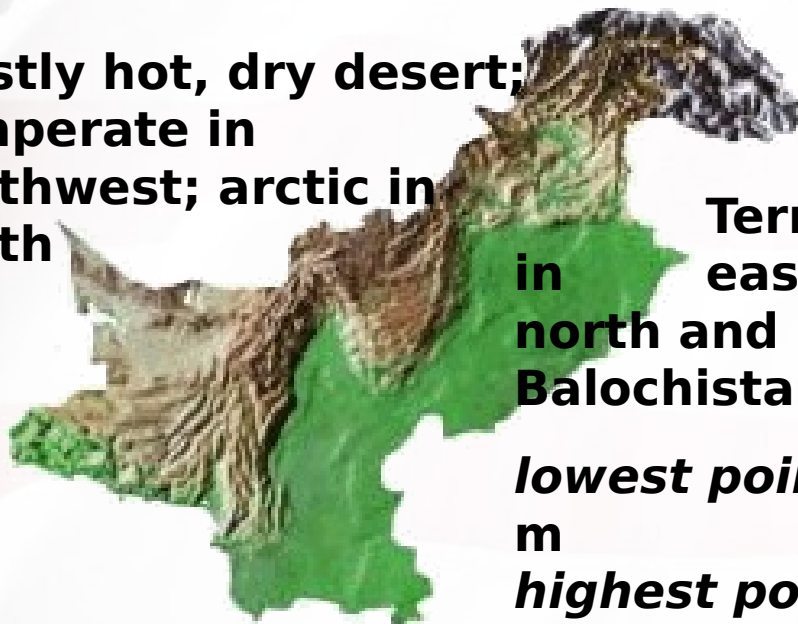
PAKISTAN



Pakistan: Environmental Issues

- Topography
- Climate

Mostly hot, dry desert; temperate in northwest; arctic in north



Terrain: flat Indus plain in east; mountains in north and northwest; Balochistan plateau in west

lowest point: Indian Ocean 0 m

highest point: K2 (Mt. Godwin-Austen) 8,611 m

Pakistan: Environmental Issues

- Pakistan EPA exists but with minimal enforcement
- Sources of industrial contamination include chemical, leather, metal, petroleum, petrochemical, and textile industries; cement, fertilizer, food processing, and power generation plants; liquefied natural gas production and distribution; and paper and pulp mills

Pakistan: Environmental Issues

- Air
 - Vehicle exhaust, petroleum refineries, iron and steel processing facilities, fertilizer and detergent plants, brick kilns, and cement production facilities
- Food
 - Sewage water used to irrigate food crops
 - Vegetables, fruits, and seafood may be contaminated with heavy metals such as cadmium and lead, and produce may be contaminated with pesticides

Pakistan: Environmental Issues

- Soil
 - Contaminated with untreated sewage, industrial effluent, or lead from vehicle exhaust
 - Poor solid waste management practices
- Water
 - Contamination from raw sewage and untreated industrial waste
 - Contaminants include metals such as arsenic, chromium, and lead
 - Excessive and incorrect use of banned and legal pesticides and fertilizers in rural areas and substantial discharge of oil wastes around port areas

Pakistan: Environmental Issues

- Environmental factors posing the greatest health risk (in descending order)
 - Contamination of water supplies with untreated sewage and industrial wastes
 - Temperature extremes
 - Extreme heat and cold
 - Localized air pollution
 - Frequent sand and dust storms
 - Contaminated seafood, wheat, fruits, and vegetables
 - High altitude primarily in the mountain ranges

Pakistan: Diseases of Operational Importance

- High-risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A, Typhoid/paratyphoid fever
 - Vector-borne: Dengue fever, Malaria, Sandfly fever
 - Sexually transmitted: Hepatitis B
 - Animal-contact: Rabies
- Diseases of potential risk
 - Food and Waterborne: Cholera, Protozoal diarrhea, Hepatitis E
 - Vector-borne: Cutaneous leishmaniasis
 - Water contact: Leptospirosis
 - Sexually transmitted: Gonorrhea/chlamydia

Pakistan: Crimean-Congo Hemorrhagic Fever

- CCHF outbreaks
 - Middle East and Central Asia
 - Sporadic
 - Annually since 1998
- 2001
 - 35-40 cases Pakistan
 - 6 cases among Afghans in Pakistan
- Last Outbreak
 - Balochistan province
 - 05 May - 29 June 2001
 - 24 suspected cases (4 deaths)
- Tick-borne

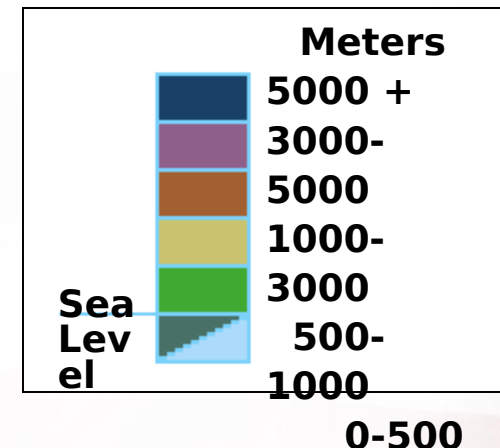
PHILIPPINES



Philippines: Environmental Issues

- Topography
- Climate

**Tropical marine;
Northeast monsoon
(November to April);
southwest monsoon
(May to October)**



**Terrain: mostly depression
mountains with
narrow to extensive
coastal lowlands**

**lowest point:
Philippine Sea 0 m
highest point: Mount
Apo 2,954 m**

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The stars are white on a blue field, and the stripes are red and white.

Philippines: Environmental Issues

- Major industries include food, textiles, chemicals, petroleum and coal products, electrical machinery, and transport equipment
- Trash disposal management currently a problem
- Strong framework for controlling pollution and protecting public health
 - Enforcement weak due to lack of funding and personnel

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The title is enclosed in a red-bordered box.

Philippines: Environmental Issues

- Air
 - Industrial sources
 - Total suspended particulates 60-90 micrograms per cubic meter higher than WHO guidelines
- Food
 - Specific information unavailable
 - Toxic algal blooms poisoning shellfish

The background of the slide is a faded American flag, showing the stars and stripes. The title is enclosed in a red-bordered box.

Philippines: Environmental Issues

- **Soil**

- Specific information unavailable
- Generally limited to areas around industrial facilities and waste disposal sites

- **Water**

- Raw sewage, industrial wastes, and fertilizers
- Over 50 rivers biologically “dead”
- Mercury contamination near gold mining operations

The background of the slide is a close-up, slightly blurred image of the United States flag, showing the stars and stripes. The title is enclosed in a red-bordered box.

Philippines: Environmental Issues

- Greatest short-term environmental health risks
 - Raw sewage and run-off
 - Heat and humidity
 - Natural disasters
- Greatest long-term environmental health risks
 - Localized air pollution
 - water contaminated with industrial pollutants

Philippines: Diseases of Operational Importance

- High risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea-bacterial, Typhoid/paratyphoid fever, Hepatitis A
 - Vector-borne: Malaria, Dengue fever
 - Animal contact: Rabies
 - Sexually transmitted: Hepatitis B
- Diseases of potential risk
 - Food and water-borne: Diarrhea-protozoal,
 - Water contact: Leptospirosis, Schistosomiasis
 - Sexually transmitted: Gonorrhea/chlamydia

QATAR



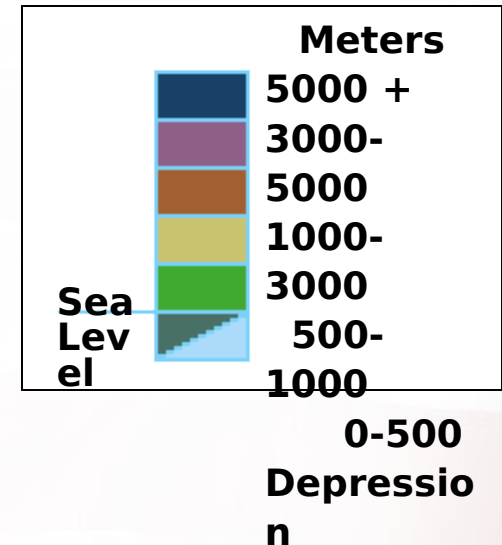
- Strategic location in central Persian Gulf near major petroleum deposits
- Limited natural fresh water resources are increasing dependence on large-scale desalination facilities



Qatar: Environmental Issues

- Topography
- Climate

**Desert; hot, dry;
humid and sultry
in summer**



**Terrain: mostly flat and
barren desert covered with
loose sand and gravel**

***lowest point:* Persian Gulf 0 m**
***highest point:* Qurayn Abu al Bawl
103 m**

Qatar: Environmental Issues

- **Industries**

- Largest producer of fertilizer in the Gulf region and the Middle East
- Oil and gas production and refining, petrochemical production, and steel mills

- **Air**

- Pollution from motor vehicle emissions, industrial releases, and windblown dust

Qatar: Environmental Issues

- Food
 - Chemical contamination
- Soil
 - Localized to specific areas surrounding industrial facilities and waste disposal sites
- Water
 - Contaminated with raw sewage and industrial discharges (primarily petrochemical)

Qatar: Environmental Issues

- Environmental factors posing the greatest health risk (in descending order)
 - Water supplies contaminated with raw sewage and industrial (primarily petrochemical) discharges
 - Extreme heat and humidity (primarily May through October)
 - Blowing sand and dust (more frequent from March through August)
 - Potential contamination of seafood with toxic metals

Qatar: Diseases of Operational Importance

- Intermediate-risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A
 - Vector-borne:
 - Sexually transmitted: Gonorrhea/chlamydia
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea, Brucellosis, Hepatitis E, Typhoid/paratyphoid fever
 - Vector-borne: Crimean-Congo hemorrhagic fever, Leishmaniasis (cutaneous, mucosal, and visceral forms), Sandfly fever, Sindbis virus, West Nile fever
 - Sexually transmitted: Hepatitis B, HIV/AIDS

SAUDI ARABIA

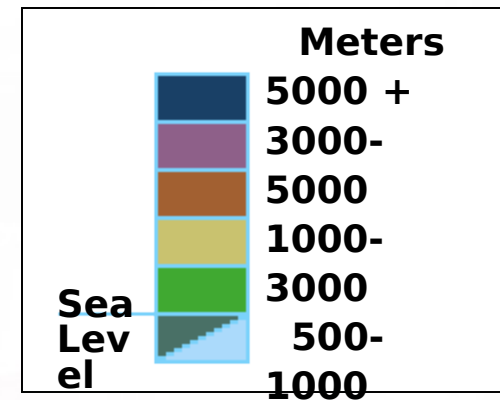
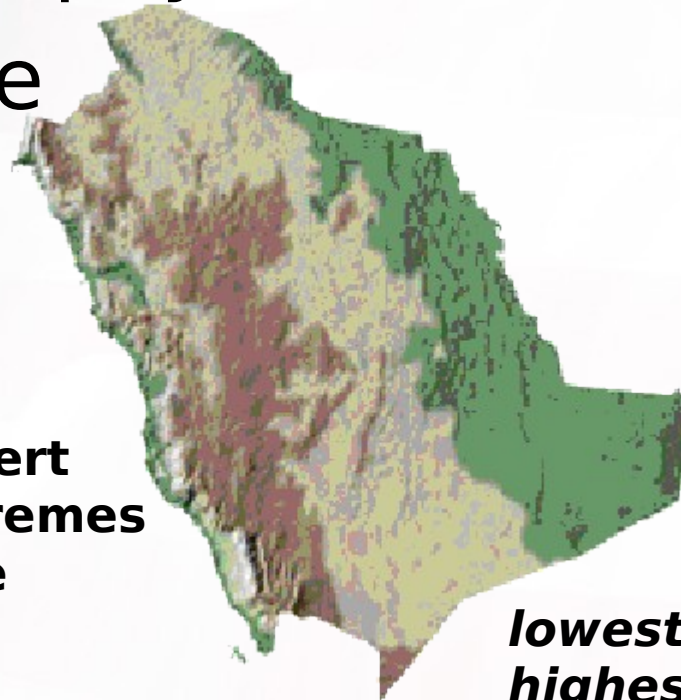
- Extensive coastlines on Persian Gulf and Red Sea provide great leverage on shipping (especially crude oil) through Persian Gulf and Suez Canal



Saudi Arabia: Environmental Issues

- Topography
- Climate

**Harsh, dry desert
with great extremes
of temperature**



0-500

Depressio

**Terrain: mostly
uninhabited, sandy
desert**

***lowest point:* Persian Gulf 0 m
highest point: Jabal Sawda'
3,133 m**

The background of the slide is a stylized American flag, with the stars and stripes visible. The title is enclosed in a red-bordered box.

Saudi Arabia: Environmental Issues

- Industries include petroleum, petrochemicals, chemicals, fertilizers, iron, steel, cement, and sugar
- Air
 - Vehicle and industrial fuel emissions
- Food
 - Crops irrigated with treated and untreated waste water

The background of the slide is a close-up, slightly blurred image of the United States flag, showing the stars and stripes. The title is enclosed in a white box with a thin red border.

Saudi Arabia: Environmental Issues

- Water
 - Lack of waste water treatment facilities
 - Industrial discharge
 - Accidental spills
 - Agricultural and industrial development

Saudi Arabia: Environmental Issues

- Greatest environmental health risks (in descending order)
 - Limited water supply contaminated with raw sewage, industrial wastes, and frequent oil spills
 - Temperature extremes and intense sunlight
 - Frequent dust storms
 - Localized air pollution

Saudi Arabia: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and water-borne: diarrhea-bacterial, hepatitis A
 - Vector-borne: Rift Valley fever
- Diseases of potential risk
 - Food and water-borne: diarrhea-protozoal, typhoid/paratyphoid fever
 - Vector-borne: dengue fever, Leishmaniasis-cutaneous and mucosal, malaria
 - Water contact: Schistosomiasis
 - Sexually transmitted: gonorrhea/ chlamydia

SOMALIA

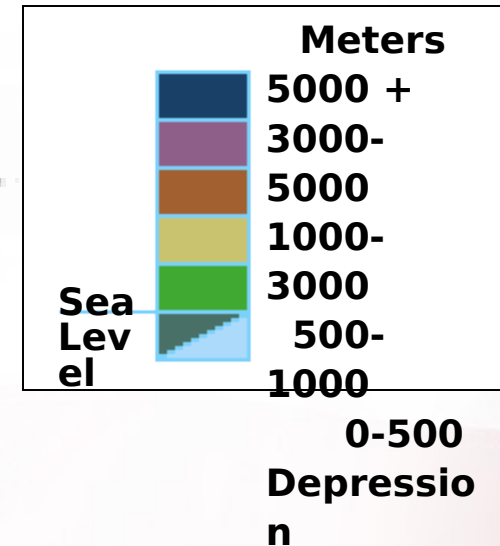
- Strategic location on Horn of Africa along southern approaches to Bab el Mandeb and route through Red Sea and Suez Canal



Somalia: Environmental Issues

- Topography
- Climate

**Principally desert;
December to February -
northeast monsoon,
moderate temperatures
in north and very hot in
south; May to October -
southwest monsoon,
torrid
in the north and hot in
the south**



**Terrain: mostly flat to
undulating plateau
rising to hills in north**

***lowest point:* Indian Ocean 0
m**

***highest point:* Shimbiris
2,416 m**

286

Somalia: Environmental Issues

- Air
 - Low levels-mostly particulates
 - Low risk to human health, however detailed information unavailable
- Food
 - Specific information unavailable
 - Food contamination only a concern for long-term exposures

Somalia: Environmental Issues

- Soil
 - Specific information unavailable
 - Illegal dumping of imported toxic waste
- Water
 - Surface water sources subject to contamination from raw sewage, poor hygienic and waste disposal practices, and blowing dust

Somalia: Environmental Issues

- Greatest short-term environmental health risks
 - Food and water contaminated with fecal pathogens
 - Water contaminated with raw sewage
 - Heat
 - Airborne dust and sand

Somalia:Diseases of Operational Importance

- HIGHEST RISK country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea-bacterial, Hepatitis A, Typhoid/paratyphoid fever, and Cholera
 - Vector-borne: Malaria, Dengue fever, Rift Valley fever, and Other arboviral diseases
 - Animal contact: Rabies
 - Sexually transmitted: Hepatitis B

Somalia: Diseases of Operational Importance

- Diseases of potential risk
 - Food and water-borne: Diarrhea-protozoal
 - Vector-borne: Cutaneous leishmaniasis and murine or endemic typhus (flea-borne)
 - Water contact: Leptospirosis and Schistosomiasis
 - Animal contact: Q fever
 - Sexually transmitted: Gonorrhea/chlamydia and Syphilis

SUDAN

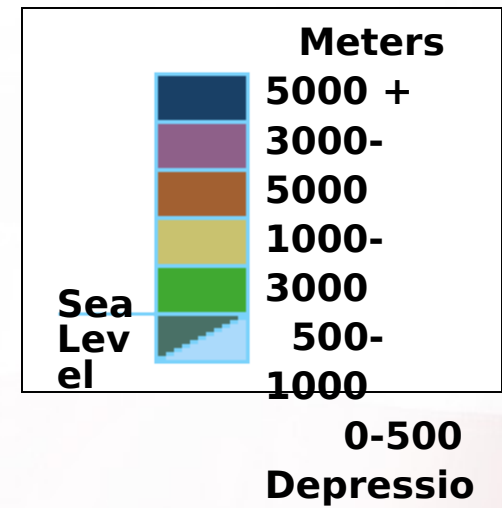


- Civil war
- Government has focused on military-related industry



Sudan: Environmental Issues

- Topography
- Climate



**Tropical in south;
arid desert in
north; rainy
season (April to
October)**

**Terrain: generally flat,
featureless plain;
mountains
in east and west**

**lowest point: Red Sea 0
m**

**highest point: Kinyeti
3,187 m**

Sudan: Environmental Issues

- Industries include oil refineries, textiles, cotton, cement, and fertilizer plants
- Air
 - Contamination mainly from cement factories and burning coal
- Food
 - Night soil, improper food preparation and handling
 - Chemical contamination

Sudan: Environmental Issues

- Soil
 - Localized contamination
- Water
 - Deteriorating water systems
 - Microbial contamination
 - Chemical contamination

Sudan: Environmental Issues

- Greatest short-term environmental health risks
 - Fecally-contaminated food/water
 - Extreme heat
 - Airborne dust and sand
 - High altitude

Sudan: Diseases of Operational Importance

- HIGHEST RISK country
- Diseases of greatest risk
 - Food and Waterborne: Diarrheal diseases, Hepatitis A, and Typhoid/paratyphoid fevers
 - Vector-borne: Malaria, West African trypanosomiasis
 - Sexually transmitted: Hepatitis B
 - Respiratory: Meningococcal meningitis
- Diseases of potential risk
 - Food and Waterborne: Cholera, Protozoal diarrhea
 - Vector-borne: Dengue fever, Cutaneous leishmaniasis, Sandfly fever
 - Sexually transmitted: Gonorrhea/chlamydia

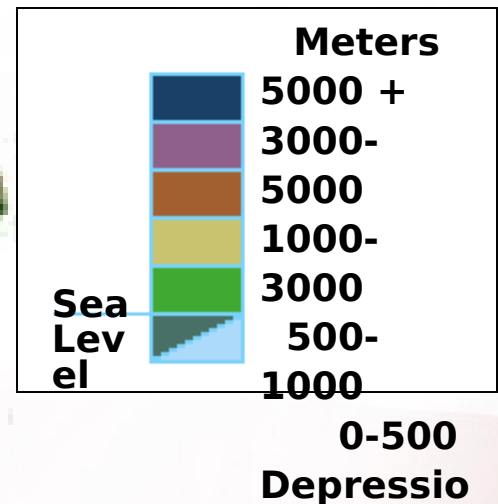
SYRIA



Syria: Environmental Issues

- Topography
- Climate

Mostly desert; hot, dry, sunny summers (June to August) and mild, rainy winters (December to February) along coast; cold weather with snow or sleet periodically hitting Damascus



Terrain: primarily semi-arid and desert plateau; narrow coastal plain; mountains in west

lowest point: Near Lake Tiberias
-200 m

highest point: Mount Hermon
2,814 m

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Syria: Environmental Issues

- Major industries include cement plants, petroleum refineries, battery factories, and rocket propellant manufacturing
- Water
 - Contamination due to raw sewage and untreated industrial discharge
 - Barada River (Damascus) and Quwayq River (Aleppo) contaminated with industrial waste from tanneries and electroplating facilities
 - Ground water is “unfit for human consumption”

Syria: Environmental Issues

- Air

- Contamination from refineries, iron and steel plants, and fertilizer plants contain high levels of xylene, benzene, and hydrogen sulfide compounds

- Soil

- Untreated sewage, industrial effluent, lead

- Food

- Vegetables have been found to be contaminated with sewage, arsenic, and lead

Syria: Environmental Issues

- Greatest short-term environmental health risks
 - Fecally-contaminated food/water
 - Extreme heat
 - High altitude
- Greatest long-term environmental health risks
 - Ingestion of food and water contaminated with toxic metals

Syria: Diseases of Operational Importance

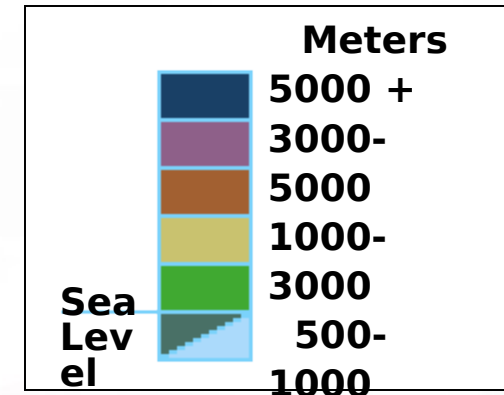
- Intermediate risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A
 - Vector-borne: Cutaneous leishmaniasis [sand flies]
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea, Typhoid/paratyphoid fever
 - Vector-borne: Malaria, Sandfly fever
 - Water contact: Schistosomiasis
 - Sexually transmitted: Gonorrhea/chlamydia

TAJIKISTAN



Tajikistan: Environmental Issues

- Topography
- Climate



Midlatitude continental, hot summers, mild winters; semiarid to polar in Pamir Mountains

Terrain: Pamir and Alay mountains dominate landscape; western Fergana Valley in north, Kofarnihon and Vakhsh Valleys in southwest

lowest point: Syr Darya (Sirdaryo) 305 m

Tajikistan: Environmental Issues

- Industries
 - Manufacturing, agriculture, and metallurgy
- Water
 - Contaminated with raw sewage and pesticides
- Air
 - Pollution due to industrial discharge
- Food
 - Pesticide contamination
- Airbases
 - Contaminated with toxic industrial chemicals

Tajikistan: Environmental Issues

- Environmental factors posing the greatest health risk (in descending order)
 - Water contaminated with microbiological and agrochemical pollutants
 - Localized urban air pollution
 - High altitude in the majority of the country
 - Localized extreme heat and cold
 - Intense sunlight

Tajikistan: Diseases of Operational Importance

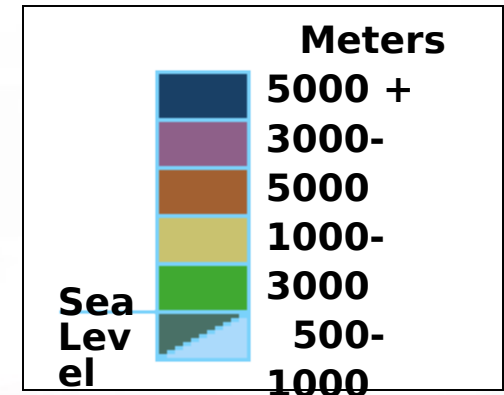
- High-risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A, Typhoid/paratyphoid fever
 - Vector-borne: Malaria
 - Sexually transmitted: Hepatitis B
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea
 - Vector-borne: Cutaneous leishmaniasis, Sandfly fever, Murine typhus, West Nile fever
 - Water contact: Leptospirosis
 - Sexually transmitted: Gonorrhea/chlamydia

TURKEY



Turkey: Environmental Issues

- Topography
- Climate



0-500

Depressio

Temperate; hot, dry summers with mild, wet winters; harsher in interior

Terrain: mostly mountains; narrow coastal plain; high central plateau (Anatolia)

***lowest point:* Mediterranean Sea 0 m**

***highest point:* Mount Ararat 5,166**

More than 90% of Turkey lies within earthquake zones.

Turkey: Environmental Issues

- Industries
 - Iron-steel, textile, chemical, fertilizer, mining, and petrochemicals
- Air
 - Air pollution due to power plants, factories, home heating units, and vehicular emissions contains sulfur dioxide, particulate matter, nitrogen oxides, lead, ozone

Turkey: Environmental Issues

- Food
 - Fish in urban areas contaminated
 - Wheat may be contaminated with aflatoxin, a carcinogen
 - Agricultural products may be contaminated by pesticides and fertilizers

Turkey: Environmental Issues

- Soil
 - Areas near industrial facilities may be contaminated with heavy metals
- Water
 - Nitrogen fertilizers, untreated municipal and industrial wastewater
 - Contaminants include ammonia, nitrates, phosphates, potassium and pesticides

Turkey: Environmental Issues

- Greatest short-term environmental health risks
 - Water contaminated with raw sewage or runoff containing fecal pathogens and industrial waste
- Greatest long-term environmental health risks
 - Localized air and water contamination near urban and industrial areas

Turkey: Diseases of Operational Importance

- Intermediate-risk country
- Diseases of greatest risk
 - Food and Waterborne Diseases: Diarrhea-bacterial, Hepatitis A
- Diseases of potential risk
 - Food and Waterborne Diseases: Diarrhea-protozoal
 - Vector-borne Diseases: Leishmaniasis, Malaria, Crimean-Congo Hemorrhagic Fever
 - Sexually Transmitted Diseases: Gonorrhea/Chlamydia

TURKMENISTAN

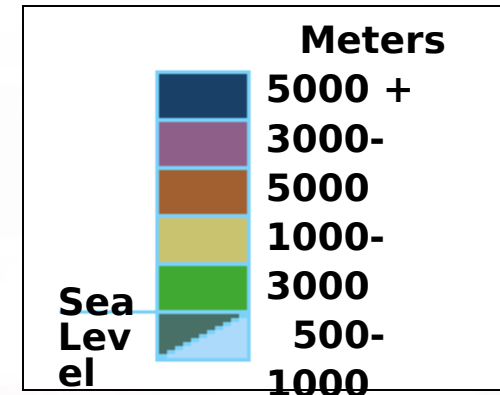


Turkmenistan: Environmental Issues

- Topography
- Climate



**Subtropical
desert**



Terrain: flat-to-rolling sandy desert with dunes rising to mountains in the south; low mountains along border with Iran; borders Caspian Sea in west

lowest point: Vpadina
Akchanaya

81.00 m

highest point: Gora Ayribaba
3,139 m

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Turkmenistan: Environmental Issues

- Industries
 - Oil and gas production and refining, chemical production, agriculture, textile production, and mining
- Air
 - Pollution from motor vehicle emissions, industrial releases, and windblown dust
- Airbases
 - Potential contamination with toxic industrial chemicals

Low precipitation and frequent dust storms result in high atmospheric dust levels. On average, dust storms occur from 35 to 67 days a year, but in some areas, dust storms may occur as often as 113 days a year.

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Turkmenistan: Environmental Issues

- Food
 - Pesticide contamination
- Soil
 - Contaminated dust from the Aral Sea basin
 - Untreated industrial and municipal wastes are routinely dumped in unlined pits in the desert
- Water
 - Contaminated with pesticides, fertilizers, salts, phenol, and municipal and industrial wastes

Turkmenistan: Environmental Issues

- Environmental factors posing the greatest health risk (in descending order)
 - Water contaminated with raw sewage or runoff containing fecal pathogens, and water contaminated with industrial waste
 - Extreme heat, dust, and blowing sand
 - Localized urban air pollution (particularly in the largest population centers and near large industrial complexes)

Turkmenistan: Diseases of Operational Importance

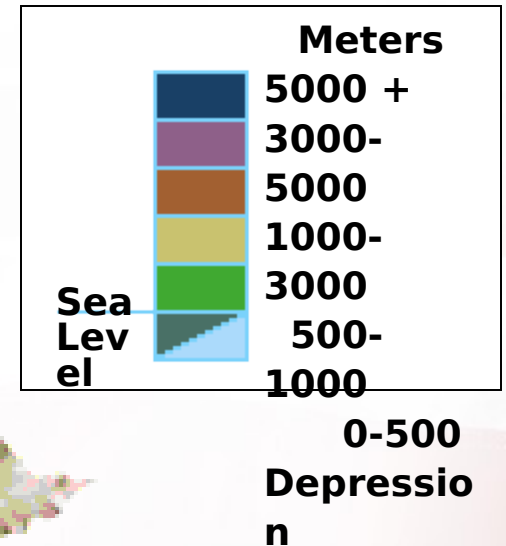
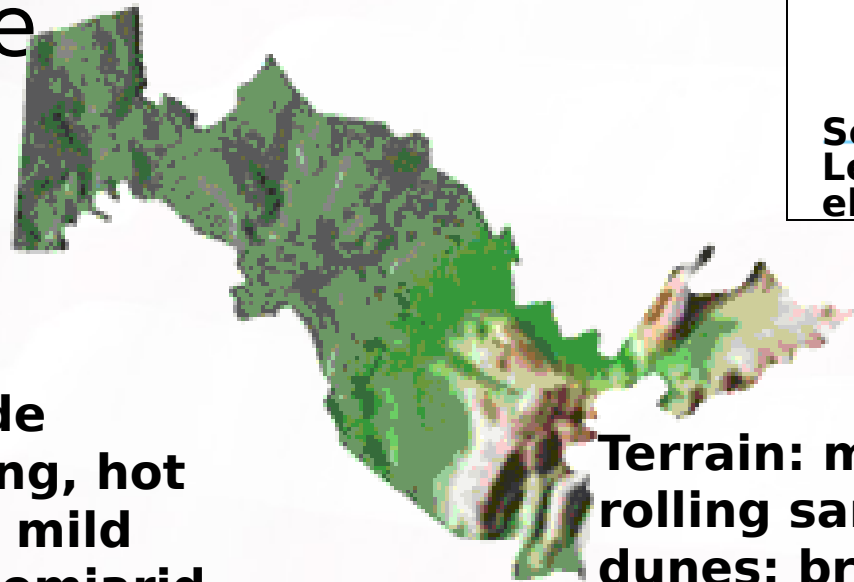
- Intermediate-risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A, Typhoid/paratyphoid fever
 - Vector-borne: Cutaneous leishmaniasis, malaria, and sandfly fever
 - Sexually transmitted: Hepatitis B
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea
 - Vector-borne: West Nile fever, tick-borne encephalitis, Crimean-Congo hemorrhagic fever
 - Water contact: Leptospirosis
 - Sexually transmitted: Gonorrhea/chlamydia

UZBEKISTAN



Uzbekistan: Environmental Issues

- Topography
- Climate



**Mostly
midlatitude
desert, long, hot
summers, mild
winters; semiarid
grassland in east**

**Terrain: mostly flat-to-
rolling sandy desert with
dunes; broad, flat
intensely irrigated river
valleys**

***lowest point:* Sariqarnish Kuli -12
m**

***highest point:* Adelunga To'ghi**

The background of the slide is a stylized American flag, with the stars and stripes visible. The title is enclosed in a red-bordered box.

Uzbekistan: Environmental Issues

- Industries
 - Chemical plants, mining and metallurgy, and power production
- Air
 - Regional pollution from auto emissions and industry
 - Standards exceeded by as much as five times
- Airbases
 - Contaminated with toxic industrial chemicals

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. A red rectangular border is positioned around the title text.

Uzbekistan: Environmental Issues

- Water
 - Amu Darya and Syr Darya rivers severely polluted
 - Fergana River contaminated with uranium mill tailings from Kyrgyzstan
- Food
 - Items may contain high concentrations of pesticides and chemical fertilizers

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The stars are white on a blue field, and the stripes are red and white.

Uzbekistan: Environmental Issues

- Greatest short-term environmental health risks
 - Water contaminated with raw sewage or runoff
 - Water contaminated with industrial waste
 - Water contaminated with pesticides, fertilizers, and defoliants
 - Seasonal temperature extremes
 - Intense sunlight
- Greatest long-term environmental health risks
 - Air pollution especially in large urban areas or near large industrial complexes

Uzbekistan: Diseases of Operational Importance

- Intermediate risk country
- Diseases of greatest risk
 - Food and Waterborne: Bacterial diarrhea, Hepatitis A
 - Vector-borne: Malaria
 - Sexually transmitted: Hepatitis B
- Diseases of potential risk
 - Food and Waterborne: Protozoal diarrhea, Typhoid/paratyphoid fever
 - Vector-borne: Cutaneous leishmaniasis
 - Sexually transmitted: Gonorrhea/chlamydia

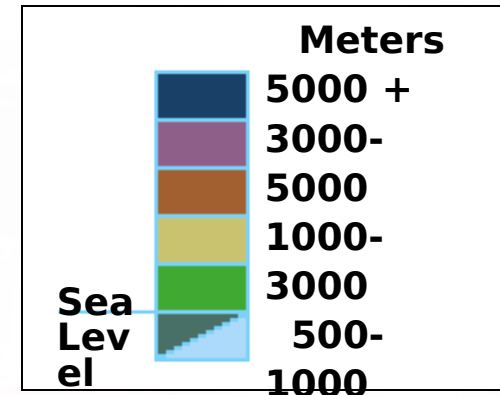
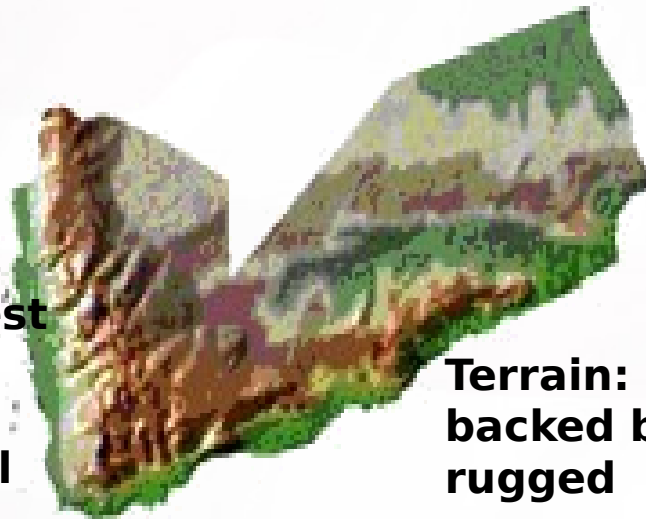
YEMEN



Yemen: Environmental Issues

- Topography
- Climate

Mostly desert; hot and humid along west coast; temperate in western mountains affected by seasonal monsoon; extraordinarily hot, dry, harsh desert in east



Terrain: narrow coastal plain backed by flat-topped hills and rugged

mountains; dissected upland desert plains in center slope into the desert interior

lowest point: Arabian Sea 0 m

highest point: Jabal an Nabi Shu'ayb 3,760 m

Yemen: Environmental Issues

- Air

- Contamination from petroleum refineries, cement plants, plastics and aluminum products facilities, vehicle exhaust, and power generation plants

- Food

- Seafood often contaminated with toxic metals.
- Fruits and vegetables sometimes contaminated with raw sewage

Yemen: Environmental Issues

- Soil
 - Specific information on soil contamination is unavailable
- Water
 - Raw sewage, industrial discharge, agricultural run-off
 - Improper disposal of solid and hazardous waste

Yemen: Environmental Issues

- Greatest short-term environmental health risks
 - Fecally contaminated food and water
 - Extreme heat
 - High altitude
 - Airborne dust and sand
- Greatest long-term environmental health risks
 - Exposure to heavy metals

Yemen: Diseases of Operational Importance

- High risk country
- Diseases of greatest risk
 - Food and waterborne diseases: Diarrhea-bacterial, Hepatitis A, Typhoid/paratyphoid fever
 - Vector-borne diseases: Malaria, Rift Valley fever
 - Water contact diseases: Schistosomiasis
 - Sexually transmitted diseases: Hepatitis B
- Diseases of potential risk
 - Food and water-borne: Diarrhea-protozoal
 - Vector-borne: Dengue fever, Cutaneous leishmaniasis
 - Water contact: Leptospirosis
 - Sexually transmitted: Gonorrhea/chlamydia

HIDDEN SLIDE

START

LEADER

RESPONSIBILITIES

- USE THESE ADDITIONAL SLIDES WHEN BRIEFING UNIT LEADERS
- HIDE THESE SLIDES IF NOT USED

HIDDEN SLIDE

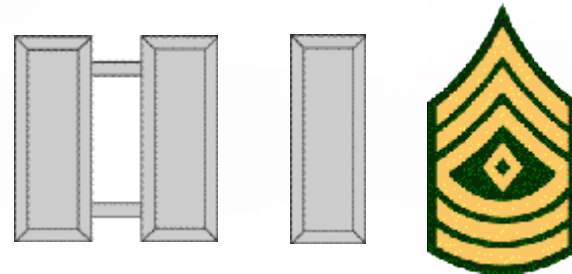
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LEADER RESPONSIBILITIES

- Company Level Unit Leaders:

- Commander
- Executive Officer
- First Sergeant



- Reduce the threat of Disease and Nonbattle Injury (DNBI) by staying informed of the medical threat
- Motivate, train, and equip subordinates prior to and during deployment to defeat the medical threat
- Work closely with Preventive Medicine personnel and emphasize the use of Preventive Medicine Measures (PMM) within your unit

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The title is centered at the top in a large, bold, blue font, enclosed in a thin red rectangular border.

LEADER RESPONSIBILITIES PRIOR TO DEPLOYMENT

- Meet with Field Sanitation Team (FST) members early and regularly to ensure requirements and guidance are clearly established and understood
- Ensure required field sanitation devices are on hand and operational (see FM 21-10)
- Ensure soldiers receive personal and organizational supplies and equipment packing guidelines for the AO and mission
- Reinforce command emphasis regarding prescribed immunizations, chemoprophylaxis, and pretreatments
- Eliminate rumors by ensuring information is passed down quickly and accurately

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The title is centered at the top in a large, bold, blue font, enclosed in a thin red rectangular border.

LEADER RESPONSIBILITIES DURING DEPLOYMENT

- Ensure, in coordination with the FST, the setup or construction and maintenance of showers, latrines, and handwashing devices
- Ensure drinking water supplies are from approved sources and the chlorine residual is maintained at the level established by the command medical authority
- Ensure all personnel drink adequate amounts of water to prevent dehydration and heat injuries
- Ensure personnel drink adequate amounts of water in cold weather to prevent dehydration; individuals can become dehydrated, even in cold weather

LEADER RESPONSIBILITIES DURING DEPLOYMENT

- Provide warm water for handwashing and personal hygiene
- Provide safe, well-ventilated sleeping, working, and recreational areas
- Enforce the use of individual PMM among your troops
- Monitor the heat index/wind-chill information regularly
 - Ensure personnel wear clothing in layers during cold weather operations and remove outer layers during work or exercise
 - Ensure personnel wear headgear to prevent body heat loss during cold weather
- Ensure personnel change their socks at frequent intervals to keep their feet dry and prevent heat or cold injuries

The background of the slide is a close-up of the American flag, showing the stars and stripes. The stars are white on a blue field, and the stripes are red and white. The flag is slightly blurred, giving it a sense of depth.

LEADER RESPONSIBILITIES DURING DEPLOYMENT

- Ensure personnel keep their sleeves rolled down and their headgear on during hot weather to prevent heat injuries
- Rotate personnel with outside exposure to extreme heat or cold (guard duty, maintenance, and observation post) to reduce the extreme temperature effects
- Ensure personnel are trained to use the equipment that they will be using during the mission
- Ensure personnel use approved solvents to clean unit equipment; not gasoline or other fuels
- Ensure personnel wear their ballistic and laser protective eyewear

The background of the slide is a close-up of the American flag, showing the stars and stripes. The title is enclosed in a red rectangular border.

LEADER RESPONSIBILITIES DURING DEPLOYMENT

- Ensure personnel wear safety goggles when operating vehicles or riding in the commander position with the windshield down and when riding in the back of open vehicles
- Ensure personnel turn off vehicle engines or vent exhaust fumes to the outside when repairing vehicles in enclosed areas
- Ensure personnel wear hearing protection when working in noise hazard areas
- Minimize contact with animals, especially rodents. Discourage pests by ensuring proper disposal of trash and elimination of food consumption or storage in living areas

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LEADER RESPONSIBILITIES DURING DEPLOYMENT

- Enforce malaria chemoprophylaxis (when indicated)
- Report all animal bites; reinforce awareness of rabies threat
- Ensure the FST performs its roles and responsibilities
 - Ensure that they have all required supplies and equipment
 - Ensure that they are trained in their duties
- Involve PM personnel in planning and preparation, including base camp site selection (air, soil, and water sampling)
- Request Preventive Medicine support for conditions that are beyond unit capabilities

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The title is centered at the top in a large, bold, blue font, enclosed in a thin red rectangular border.

LEADER RESPONSIBILITIES POST DEPLOYMENT

- Ensure unit receives post-deployment Preventive Medicine briefing
- Ensure unit completes post-deployment health assessment (if not done prior to leaving AOR)
- Reinforce command emphasis regarding continued use of chemoprophylaxis and medical screening
- Provide encouragement and support to soldiers during reunions
- Monitor soldiers for signs of illness, ensuring affected soldiers receive prompt medical attention
- Ensure FST materials are checked and restocked immediately upon return to the home station

HIDDEN SLIDE

END

LEADER RESPONSIBILITIES

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Discussion



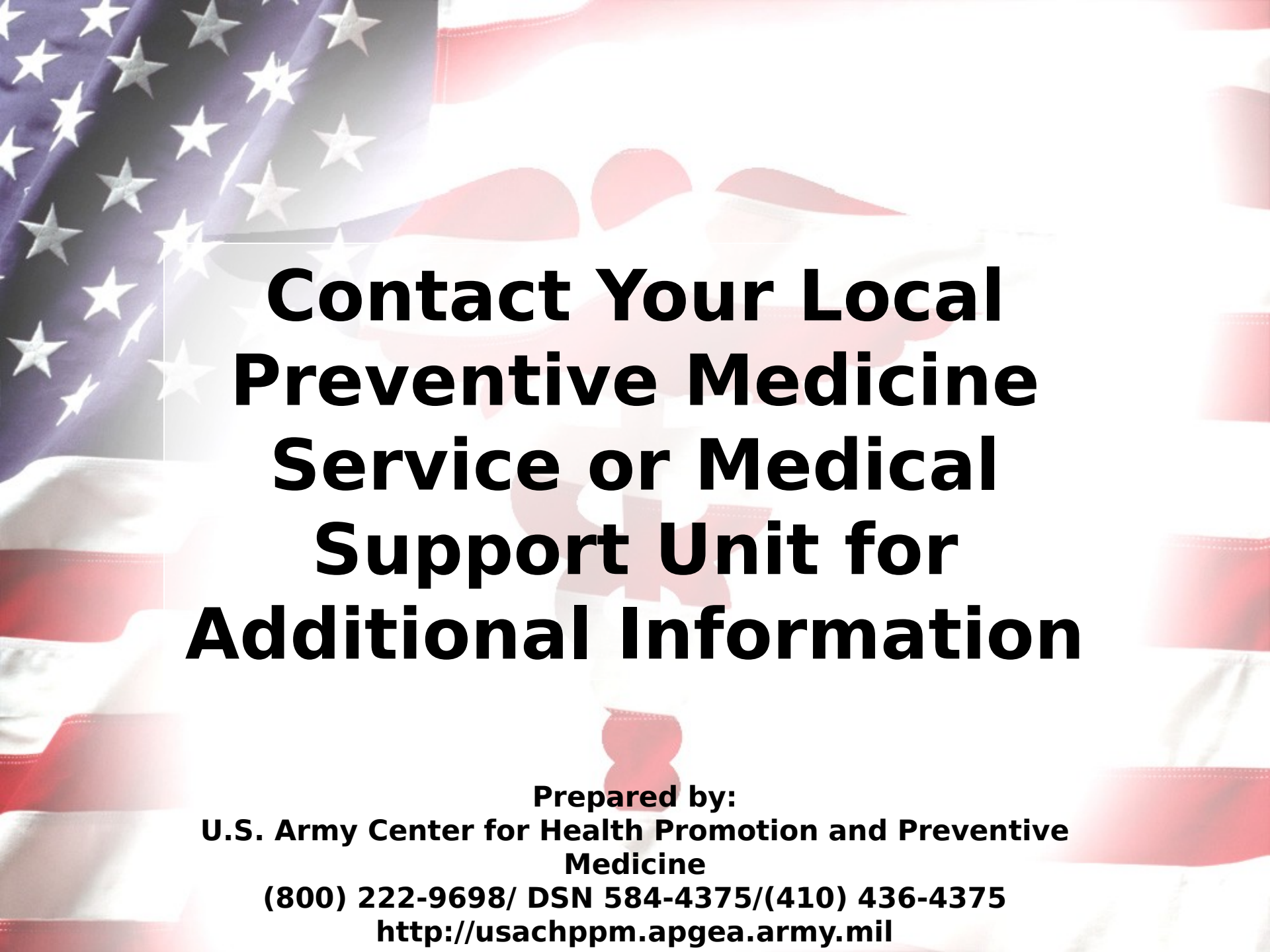
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SUMMARY

- Review of *Guide to Staying Healthy*
- Preparation for Deployment
- Deployment
- Medical Threat
- Post Deployment
- Regional Profiles
- Country Profiles
- Leader Responsibilities

CONCLUSION

- It is critical to all military missions that personnel (including combat, support, and sustaining base military and civilian forces) are aware of health threats and the countermeasures discussed in this briefing and the *Guide to Staying Healthy*. This information can be applied during all phases of military operations, including training, pre-deployment, deployment, and post-deployment.



Contact Your Local Preventive Medicine Service or Medical Support Unit for Additional Information

**Prepared by:
U.S. Army Center for Health Promotion and Preventive
Medicine**

(800) 222-9698/ DSN 584-4375/(410) 436-4375

<http://usachppm.apgea.army.mil>

The background of the slide is a close-up, slightly blurred image of the American flag, showing the stars and stripes. The flag is waving, creating a sense of movement. The colors are vibrant, with the red, white, and blue of the flag being the primary colors in the background.

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